Inspection Preparation

```
              ◄──────  Inspection Process Monitoring  ──────►

  ┌──────────────┐
  │ Planning and │
  │  Scheduling  │
  └──────┬───────┘
         │                                      Yes
         ▼          No                    ┌──────────┐      ┌──────────┐           ┌──────────┐
     ╱ Overview ╲ ──────►  ┌───────────┐  ┌───────────┐  ╱ Third Hour? ╲ ──────►  │ Analysis │ ──────►  │  Rework  │
    ╲ Required? ╱          │Preparation│  │ Inspection│  ╲            ╱            │ Meeting  │          │          │
      ╲      ╱             └───────────┘  │  Meeting  │     ╲      ╱               └──────────┘          └────┬─────┘
         │                                └───────────┘        │ No                                          │
        Yes                                                                                                  ▼
         │                                                                                            ┌──────────┐
         ▼                                                                                            │ Follow Up│
   ┌──────────┐                                                                                       └────┬─────┘
   │ Overview │                                                                                            │
   └──────────┘                                                                                            ▼
                                                                                                     ┌──────────┐
                                                                                                     │Prevention│
                                                                                                     │ Meeting  │
                                                                                                     └──────────┘

              ◄──────  Data Recording and Reports  ──────►
```
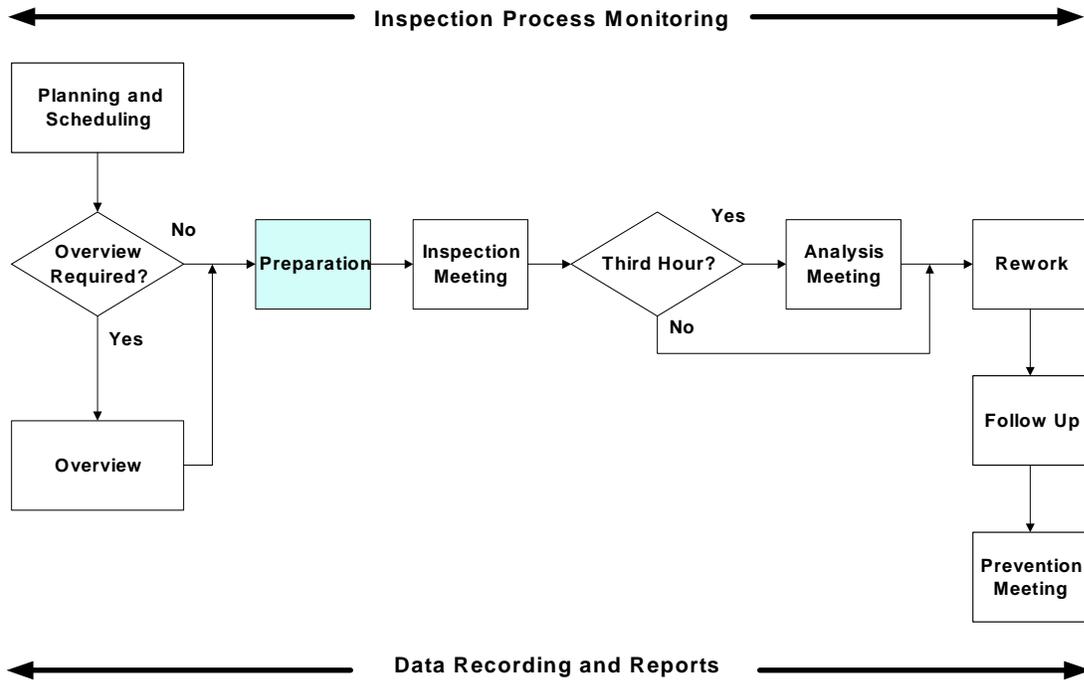
Activity 3: Preparation
Figure 3.4

INTRODUCTION:

Preparation precedes the Inspection Meeting. The time allocated should be sufficient to allow each Inspection participant to prepare for an effective and efficient Inspection Meeting. Calendar time between scheduling Preparation, performing Preparation, and the Inspection Meeting will vary based on the needs of the Inspection and availability of the Inspection team participants. It is usually an individual activity, but can be performed as teams of two or more. When groups meet for Preparation, they should not treat these as Inspection Meetings.

Preparation is required for each Inspection Meeting. All members of the Inspection team should prepare, including the Moderator, who is also another inspector.   Also the Producer should prepare, but very likely will require less time. All inspectors should prepare.

The materials to be inspected should be provided in advance to allow proper Preparation for the inspectors to understand the work product and note apparent defects or questions. See Table 3.1 for suggested rates at which Preparation should proceed. The Moderator must confirm that sufficient time has been allocated for Preparation and that the inspectors have the time available. Required additional materials, as appropriate, should also be provided or made available online; e.g., baseline material to map the inspected material against, checklists, previous versions of the work product, templates for logging defects. See Appendix B for materials by Inspection type.

The inspectors should mark the material to be inspected with questions and possible defects as they proceed through their Preparation. The Preparation material is for the inspectors to use as best suits their needs.

During Preparation the inspectors should:

- Increase their understanding of the material
- Inspect the work product using the checklist appropriate to the work product
- Identify possible defects which will be discussed at the Inspection Meeting
- For minor defects:
  - Either provide the marked work product material to the Producer at the end of the Inspection Meeting for correction during Rework
  - Or create a list on a separate sheet of paper; this list will be collected at the start of the Inspection Meeting
- Note the amount of time spent during Preparation

Although some Inspection advocates state that the Moderator should only moderate, I have found that they can effectively serve as an inspector and sometimes are among the best inspectors. Since some organizations prefer that the Moderator not inspect, this is an option they can choose. If the Moderator is not an inspector this may require another inspector at the Inspection Meeting. Having the Moderator be an inspector also tends to guard against assigning the Moderator role to less qualified organization members.

Some organizations may choose not to create the minor defect lists, but rather to provide the marked up work product with noted minor defects and discuss each minor defect after the Inspection Meeting. Some teams prefer to discuss the minor defects at the Inspection Meeting. This will require more time at the meeting. I have found that minor defects often take more time than warranted at the Inspection Meeting with little payback. If the rule is to trust that the Producer will fix all relevant minor defects, the Inspection Meeting can then be used for the more important defects identified. Minor defect lists, however, can provide an indication of how well the preparation was performed. For example, the numbers of minor defects found and whether they have been found throughout the work product can give an indication of coverage during Preparation. Additionally, the data can be used to analyze the effectiveness and efficiency of Preparation and the Inspection Meeting. During Follow-up, the Moderator or designee is to verify that all valid defects, including the minors, were repaired.

The original method did not require classification of defects during Preparation. This was done at the Inspection Meeting. I suggest that the inspectors can classify fairly quickly during Preparation and that this will save time at the Inspection Meeting. The classification should include where found, probable type of defect, and consideration for cause. The classification is the same as used during the Inspection Meeting.

✂ The Recorder should identify which, or at least what volume of, defects were identified during the Preparation activity versus the Inspection Meeting and should also record time spent for actual preparation made by each inspector. The number of defects found should be both the major and minor. For the major defects, either a log can be created, which I tend not to prefer, or the inspectors can be asked during the Inspection Meeting discussions whether the defect was found in Preparation. These data and analysis will facilitate improvements in Preparation tasks and in individual personal processes for work product production.

Responsible Individual:

Primary responsibility is with the inspectors to ensure they have properly prepared for the Inspection Meeting. If any inspector cannot prepare sufficiently, the Moderator must be notified immediately and a backup inspector selected. If a backup cannot be selected in time based on who is not prepared, the Moderator must decide whether the Inspection can still be effective with a smaller team or if it should be rescheduled. In both cases the decision should be recorded to learn from analysis of the results.

Other Roles:

The Moderator should first estimate the Preparation time needed for the Inspection based on the material to be inspected. These estimates should be verified with the Inspection team participants. At the same time, the Moderator needs to get a commitment from each participant that enough time is allocated and that it will be sufficient for him or her to prepare.
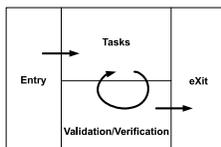
Entry Criteria:

1. The Overview, if needed, has been satisfactorily completed.
2. Any Open Issues identified for the Overview have been closed and addressed in the work product or are documented as Open Issues and provided as ancillary material for the Preparation.
3. Open Issues not closed are documented to be tracked within the change control system used by the project.
4. The Producer determines that the work product is ready for Inspection.
5. The work product has achieved closure; e.g., the code compiles, , any tools if available have been used (syntax checkers, static analyzers, or dynamic analyzers), and the code complies with defined standards, style guides, and templates for format.
6. All necessary ancillary materials have been made available well in advance. See Appendix B for ancillary materials by Inspection type.

7. The work product includes all baselined function and approved changes for this planned work product completion date.
8. The amount of time needed for Preparation has been confirmed with the inspectors and is available to them.
9. Predecessor and dependent work products are available, have been inspected, and meet exit criteria.
10. The Moderator and Producer have defined the coverage of material to be inspected.
11. The work products allow easy identification of defects by location in the material; e.g., documents including requirements and design are written to show section numbering or some other form of chunking of material, numbered lines in the code.
12. The Moderator agrees that the work product is inspectable.

NOTE 1: It is possible to perform an Inspection Meeting with a modified work product and without predecessor and dependent work products having been inspected, but this is a risk to a stable and effective Inspection process. This risk should be noted if the Inspection proceeds. This is a typical situation in maintenance type projects, where predecessor work products are just not always available.

NOTE 2: In projects where the organization intranet is used to house and distribute documents, there is a clear advantage for making required documents and work products available. One caution that must be addressed is to assure that documents are under configuration controls facilitating same version distribution and preventing inadvertent changes that will cause confusion between inspectors with different documents. Definitely move to the intranet capability as soon as possible, but ensure document control.

Tasks to be performed:

1. Each inspector uses the scheduled time to complete the Preparation in a style and format they are comfortable with.
2. The material to be inspected is marked with questions, concerns, and possible defects, both major and minor, found during the Preparation.
3. The minor defects are either recorded on a separate sheet that will be delivered to the Moderator at the start of the Inspection Meeting or they are clearly noted in the marked material that will be delivered to the Moderator at the end of the Inspection Meeting. Each minor defect should be noted by location in the work product when using a minor list.

Validation/Verification:

1. The Moderator should use the Preparation entry criteria and procedure.
2. The Moderator should use the minor defect information to determine if all inspectors have properly performed preparation.
3. The inspectors have confirmed that they have prepared. If an inspector cannot properly prepare they must notify the Moderator and Project Lead as soon as possible.

3. The SQA function in the organization ensures that the Moderator has used the Preparation procedure and that the inspectors performed sufficient preparation. This can be done via audits of the process records or sampling of Inspections.

Measurements: Data should be gathered during this activity; e.g.,

- How much time was spent in Preparation
- How long a period between notification of the Inspection and the Preparation
- How many Inspection Meetings required rescheduling due to insufficient preparation
- The number of major and minor defects found during Preparation.

Exit Criteria:

1. Each inspector has completed sufficient Preparation based on preparation time criteria. See Table 3.1 for example rates.
2. Minor defect inputs are completed.
3. Preparation notes are recorded on the work product materials or defect lists.