Southern Company Operations

Engineering and Construction Services

Project Services – Construction Services

PS-02

Productivity Improvement Guideline

	Rev. 0
Date	5/15/2017
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Contents

1.0 PURPOSE AND SCOPE

1.1 Purpose

This document provides guidelines for productivity improvement through the application of proven best practices.

1.2 Scope

This guideline applies to construction projects managed by Engineering and Construction Services (E&CS). The size of the project will determine the level of implementation.

2.0 RESPONSIBILITY

2.1 Construction Site Manager

The construction site manager is responsible for ensuring productivity improvement objectives and activities are accomplished in a thorough, timely manner using the guidelines in this document.

2.2 Constructability Lead

The assigned constructability lead in Construction Services is responsible for the following:

- Maintaining ownership of this guideline.
- Ensuring productivity improvement best practices are integrated into the Scope Development and Project Definition phases of the project.
- Completing a pre-construction productivity preparation review as a part of the Constructability Study (presented in Constructability Review #2).
- Leading periodic review teams using peer reviews, site risk reviews, or other applicable means.
- Updating this document, through a collaborative process, when additional productivity improvement best practices are identified, proven, and approved.
- Storing all productivity improvement documentation as specified in the Document Storage section of this guideline.

2.3 E&CS Contract Strategy

E&CS Contract Strategy in Construction Services is responsible for ensuring labor contracts include appropriate language to ensure adherence to these guidelines regardless of contract type or strategy.

2.4 Document Services

E&CS Document Services is responsible for working with each site to assist in the creation of the Foreman Work Plan books using the standard book format as defined.

2.5 Project Controls Manager

The E&CS Project Controls manager is responsible for ensuring project control practices and standards align with productivity improvement activities for consistent and integrated execution.

2.6 Contractor Site Management

Onsite contractor management is responsible for ensuring these guidelines are followed under the direction of construction site management, particularly in the following areas:

- Work rule compliance and enforcement.
- Training of foremen and general foremen.
- Active participation in periodic meetings to review work plans and weekly work results.
- Use of standard formats and documentation as directed by construction site management.

3.0 PROGRAM

3.1 Pre-Construction

During the planning phase, before contracts are written, the following items will be addressed to ensure a productive work environment:

- Jobsite logistics.
- Work rules.
- Initial training.
- Contractor expectations.
- Contracts.

Once decisions are made on how these items will be handled, the existing Constructability Review processes will ensure these activities are being completed in a timely manner.

Deliberate planning for productivity improvement will ensure a productive work environment is created and sustained across the construction project.

See Pre-Construction Productivity Checklist.

3.1.1 Jobsite Logistics

By properly planning logistics associated with jobsite activities, productivity can be optimized to minimize travel, transport, and wait times for all craft workers assigned to construct the project. These actions are proven best practices:

- Create a jobsite plan in which productivity is a primary consideration.
- Develop and document logistics plans (locations, schedules, terms of use, and so forth) for project areas, general work areas, and crew work areas; and designate an owner for them.

See Site Logistics Plan Example.
See Work Area Logistics Plan Example.

3.1.2 Work Rules

A productive work environment is easier to achieve and maintain when common sense work rules are communicated and. The following actions, as dictated by construction site management, are important to define early in the job:

- Develop an elevator use policy.
- Use a horn for shift changes, breaks, and lunch time control.
- Establish a break and lunch “in place” policy, which keeps crews close to work areas and minimizes travel.
- Determine the need for designated tool and material runners so more crew members are working with their tools.
- Expect foremen to stay in their crew’s work areas even during lunch and breaks.
- Whenever possible, adhere to standard, consistent shift start and stop times.

See Elevator Operating Guidelines Example.

3.1.3 Initial Training

Southern Company construction site management and contractor supervision will be trained and capable of achieving a safe and productive workplace in accordance with all other project requirements. The following expectations apply:

- Productivity Improvement
  - Understand and enforce the work rules applicable to workers’ assigned Scope of Work (SOW).
  - Achieve a safe work environment by knowing and enforcing the requirements of the project safety plan and being a leader in the implementation of safe work practices.
  - Know the SOW assigned at the highest level of detail.

- Use the Project Work Order system effectively in all phases of completion for the assigned SOW.
- Prepare a detailed schedule for the assigned SOW and update the schedule regularly in collaboration with the scheduler.
- Prepare a detailed job plan for the assigned SOW so it can be clearly communicated to the craft, entered into the schedule, and tracked from start to finish.
- Ensure all materials necessary for execution of the SOW are requisitioned, available, properly packaged, and delivered to the immediate work area in a timely fashion.
- Ensure individual logistics plans for the project area, general work area, and crew work area support the successful completion of the assigned SOW; update each plan as needed.
- Know the work expectations for productivity to be achieved during installation of individual commodities and track that productivity while using the Commodity Rules of Credit.
- Develop a daily 3-Day Look-Ahead Plan and communicate the plan and progress-to-date during daily and weekly meetings with project front line supervision.
- Maintain a copy of the project contact information list in the crew work area.
- Ensure all technical information, including but not limited to drawings, specifications, lift plans, and manufacturer's installation instructions, is available in the crew work area.
- Ensure work is completed in accordance with the Project Quality Plan, necessary quality documents are maintained in the crew work area, and the appropriate quality lead is fully engaged with the work crew.

- Labor Broker Contracting (where applicable).
  - Train contractor supervision and Southern Company Construction Site Management in their respective roles and responsibilities for a Labor Broker contract.
- Work Planning and Execution process, including Foreman Work Plan books.
  - Provide training to all craft supervision and SCS coordinators who will use this process.

See Foreman Training.
See Foreman Training Module.
See Generic Book Format – All Documents

3.1.4 Contractor Expectations

The contractor has an essential role in optimizing productivity. The following items are critical to success:

- Enforce established work rules.
- Insist on foreman being present with their crews in the work area.
- Participate with site management on periodic productivity walk downs.
- Working with site management to complete productivity improvement action items as they are discovered.

3.1.5 Contracts

The labor contracts will include the necessary language for productivity improvement activities in the Special Conditions section of the contract.

3.2 Construction

3.2.1 Managing Logistics and Work Rules

During the project site logistics and work rules may need to be modified to maintain a productive workplace. Examples of these changes include:

- Relocating laydown and fabrication areas.
- Moving parking lots.
- Adjusting the number of onsite vehicles for personnel and material transport.
- Changing bus routes.
- Altering shift times.

To effectively address and manage these changes, an owner will be appointed for logistic and work rule items and will properly document and communicate them with all SCS and contractor personnel.

3.2.2 Work Planning and Execution

In this guideline, we describe a proven process that uses Foreman Work Plan books. Ideally, this process is initiated during the pre-construction/ mobilization phase. The site will establish a process for work planning and execution that incorporates Foreman Work Plan books and work packaging for individual SOWs assigned to a general foreman and foreman. The general foreman and foreman are selected and trained in the use of the Foreman Work Plan books to become effective and productive. The main benefits of the books include:

- Providing easily accessible information in one location.
- Creating a standard method of accomplishing work tasks.
- Setting challenging targets for unit rates (labor hours per installed quantity) broken down to an appropriate level to manage the job(s).
- Providing a location for drawings and other reference materials.

- Instructing the foremen/general foremen that weekly meetings will include tracking actual vs. target unit rates and quantities, and they will personally report the results to their peers
- Emphasizing scheduled completion dates for various jobs.
- Using a weekly comparison of planned percent complete versus actual percent complete to ensure sufficient progress is made to maintain the schedule. This will be monitored by the assistant site managers and will be reviewed weekly to determine when intervention is required to address obstacles to productivity and progress.
- Setting the expectation for managing weekly work using look-aheads.
- Enforcing the removal of all interference from upcoming work before it is placed on the current week's plans.
- Instructing weekly foremen meetings to use an action register to capture issues requiring follow up and to promote accountability for results.
- Includes a work package with a sign-off sheet to ensure understanding of expectations and to foster buy-in to the plan.
- Instructs general foremen they are expected to report weekly on progress.

Each site will use the standard forms and book format located on the Productivity Improvement - All Documents section of the Construction Services SharePoint site. For a detailed view of the book contents, see Table of Contents - Foreman Work Plan Book.

3.2.3 Ongoing Training

Because of normal personnel changes within the contractor and SCS work force, ongoing training will be provided by construction site management or their designee to ensure productivity enhancement items are understood and effectively accomplished.

3.2.4 Meetings

Although effective meetings are important to a productive job, the number and length of meetings will be optimized so workers can return to their work areas in a timely manner. Meetings must involve only participants whose participation is necessary. (Productivity Improvement meetings will be described to SCS coordinators and contractor supervision in the initial training sessions.)

See Weekly Productivity Meeting Agenda Example.

3.2.5 Productivity Studies

The periodic use of work sampling studies is an effective tool in obtaining a third-party view of overall workplace efficiency, and will be scheduled well ahead of time in conjunction with the Fleet Strategy Maintenance and Reliability group.

These studies canvass a predetermined work area; for every observation made, note whether the activity observed is productive work (PW) or non-productive work (NPW), as defined below. The relative success of the Productivity Improvement Program will be measured by the number of observations, expressed as a percentage of the total observations, which are noted as Direct Work (DW).

Productive Work (PW) will be defined and broken down as follows:

Direct Work (DW)	Exerting physical effort directed towards an activity or physically assisting in these activities.
Safety and Security	Activities or efforts related to functions of fire-watches, confined space attendant, and FME attendants.
Receiving Instructions	Job-related conversations between mechanics may cover topics such as reviewing blueprints, direct instruction, or reviewing tasks, including talking on the PA system and phone conversations.
Receiving Instructions (Foreman)	Job-related conversation between a supervisor/foreman and a mechanic.
Receiving Instruction (Toolbox)	Attending daily toolbox meeting.
Tools and Materials	Retrieving tools from a toolbox, changing a grinding wheel, changing dyes on a pipe threader, and other similar activities.
Transport	Carrying or transporting tools, equipment, and material to and from work site. Waiting or transacting at a storeroom/tool crib windows.
Transport (Tool Crib)	Waiting or transacting at a storeroom or tool crib windows.
Work Wait	Waiting for blocking tags, crane load being lowered, QC hold, or other work stoppages.

Non-Productive Work (NPW) will be defined and broken down as follows:

Idle (Site)	Idle worker, can be engaged in social conversation, smoking, drinking soda or coffee, making a personal phone call, or other similar behavior.
Idle (Coffee)	Worker having a coffee break.
Late Start	Half-hour period after start of shift and meal break, comprised of travel and idle.
Early Quit	Half-hour period before meal break and end of shift comprised of travel and idle.
Personal	Use of toilet facilities, washing hands, donning and doffing of safety gear, putting on gloves, changing clothes, and drinking water. Any activity related to the personal well-being of the individual.
Travel	Walking while empty-handed, including to and from the jobsite, on the jobsite, and operating or riding in a motor vehicle.
Travel/Elevator	Waiting or riding on elevator or man lift while empty-handed.

See Vitale – Productivity Study – Benchmark.

Construction site management will ensure the individual productivity study reports are retained and submitted to Construction Services for document retention and analytics.

This is the recommended approach to using these studies:

Category	Initial Benchmark Study	Follow Up Study
E&CS Managed Projects*	3 to 4-week duration	9-12 months after benchmark study

* Refer to Constructability Study for recommended approach.

For more information, see Productivity Study Guidance.

3.2.6 Peer Reviews

Using peer reviews to evaluate the consistent application of productivity improvement practices on individual projects has advantages including potential savings of money and time. It promotes best practices, confirms the use of certain tools and processes for all involved parties, and sets the standard for productive work environments.

Construction Services will support the peer review process to accomplish the following:

- Periodically visit the site and assess the application and effectiveness of these Productivity Improvement guidelines.
- Perform walk downs to identify areas that need additional focus and improvement.

The results of the peer reviews will be disseminated to the construction site manager, the project manager, and other project leadership as appropriate.

See Peer Review Findings Example.

4.0 DOCUMENT STORAGE

Construction Services will maintain an updated, controlled copy of this guideline on the Construction Services SharePoint site. Construction site management will place copies of the Productivity Studies on their respective PIMS sites. Construction Services will keep a copy of each project's Productivity Study on the Construction Services SharePoint site for purposes of analysis.

See Productivity Improvement - All Documents

5.0 LESSONS LEARNED

Identifying lessons learned is one of the most important parts of a project. Site management will follow the Lessons Learned Program established by the PMO. At a minimum, a list of best practices for productivity enhancement which can be considered for revisions to this document will be maintained.

See List of Productivity Improvement Items Example.
See Project Management Office Lessons Learned Program.

6.0 ATTACHMENTS

- Attachment A, Pre-Construction Productivity Checklist.
- Attachment B, Site Logistics Plan Example.
- Attachment C, Work Area Logistics Plan Example.
- Attachment D, Elevator Operating Guidelines Example.
- Attachment E, Foreman Training.
- Attachment F, Foreman Work Plan Book.
- Attachment G, Weekly Productivity Meeting Agenda Example.
- Attachment H, Vitale – Productivity Study – Benchmark.
- Attachment I, Productivity Study Guidance.
- Attachment J, Peer Review Findings Example.
- Attachment K, List of Productivity Improvement Items Example.

Attachment A: Pre-Construction Productivity Checklist

Project Name: _____

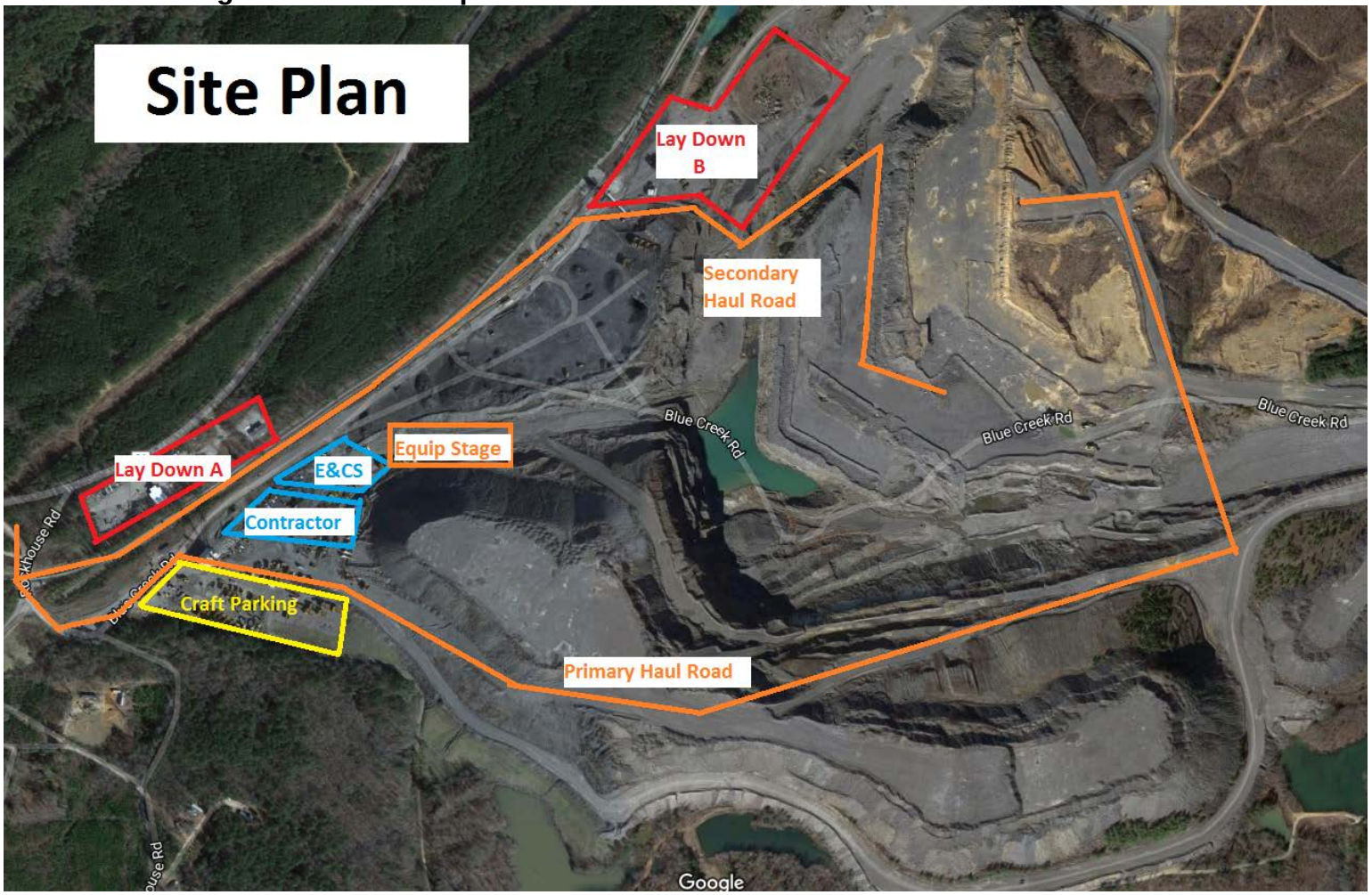
Reviewer: _____

Review Date: _____

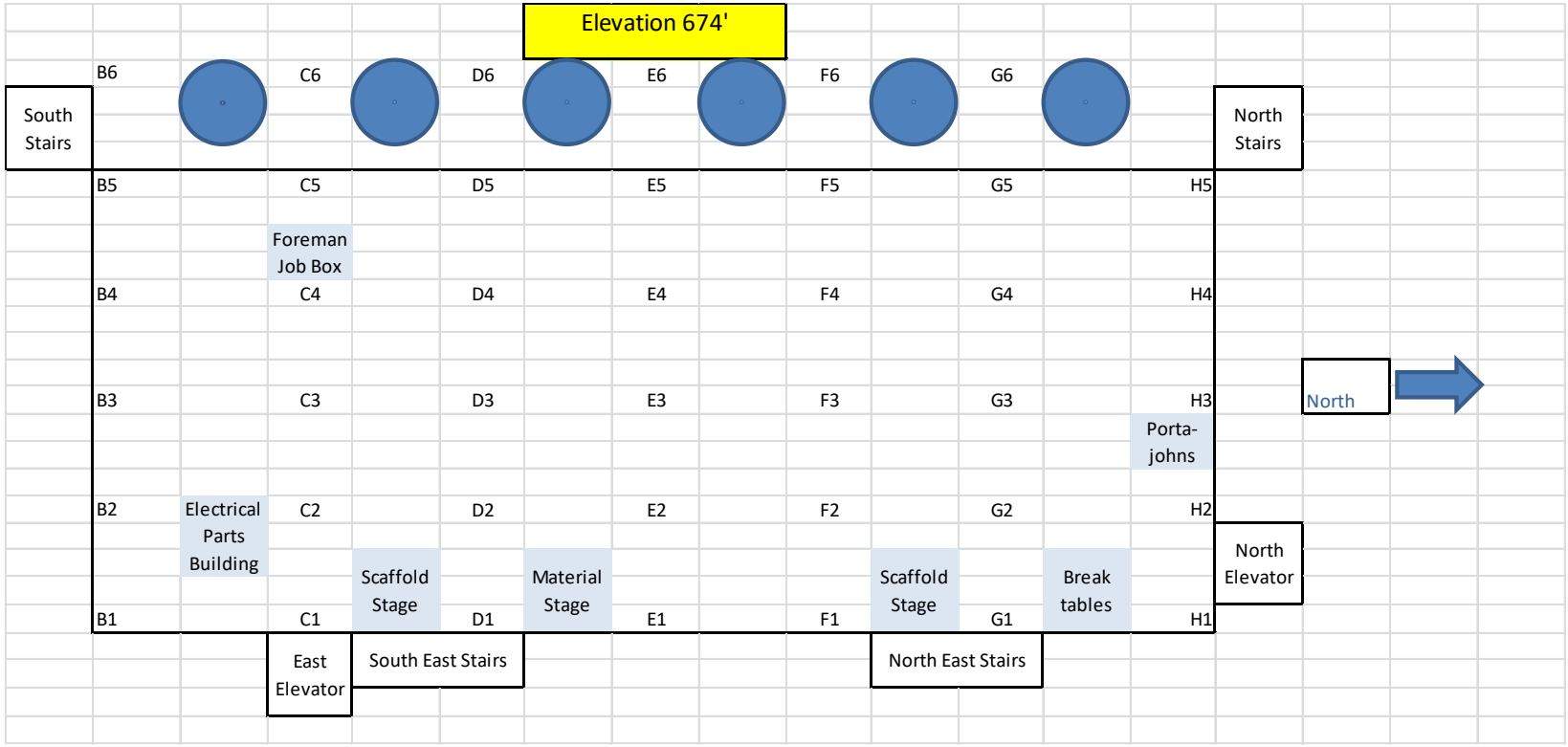
Project Area Logistics			
	Yes	**No**	**Comments**
Have parking lots been sized and located to minimize travel and congestion?	☐	☐	
Have contractor brass-in/out locations been planned to minimize travel and congestion?	☐	☐	
Have fab yards, laydown yards, staging areas, & warehouses been located to optimize productivity? (That is, no hiding places or hangouts exist.)	☐	☐	
Can haul and transport routes be created to minimize congestion?	☐	☐	
Are equipment maintenance areas properly located?	☐	☐	
If bussing is necessary, can it be designed for minimum travel and interference?	☐	☐	
Has a plan been created for site vehicle parking areas adjacent to work areas in an organized arrangement, not blocking access for daily work activities?	☐	☐	

General Work Area Logistics			
Have the following items been optimized for productivity:	**Yes**	**No**	**Comments**
Location of field offices?	☐	☐	
Construction power?	☐	☐	
Equipment locations and storage?	☐	☐	
Tool rooms?	☐	☐	
Material storage areas?	☐	☐	
Staging areas?	☐	☐	
Number and location of elevators?	☐	☐	
Trash chutes and schedule for removal?	☐	☐	
Vending machines and their locations?	☐	☐	
Foreman work stations/job boxes?	☐	☐	
Access to clearances?	☐	☐	
Hot work and other permits?	☐	☐	
Tool containers?	☐	☐	
Break/lunch areas (preferably in work areas)?	☐	☐	
Restrooms and hand washing stations?	☐	☐	
Water cooler locations, responsibilities, etc.?	☐	☐	
Porta-john locations, serviceability?	☐	☐	
Smoke pens?	☐	☐	
Air, water, and other necessary utilities?	☐	☐	
Temporary lighting?	☐	☐	
Productivity Work Sampling Studies			
	Yes	**No**	**Comments**
Have decisions been made and communicated regarding initial productivity studies (required date and duration)?	☐	☐	
Foreman-General Foreman-Coordinator Training			
	Yes	**No**	**Comments**
Have decisions been made about the content and timeliness of Foreman Work Plan books?	☐	☐	
Have training sessions been planned for contractor foremen, general foremen, and coordinators for productivity purposes and the use of Foreman Work Plan books?	☐	☐	

Attachment B: Site Logistics Plan Example



Attachment C: Work Area Logistics Plan Example



Attachment D: Elevator Operating Guidelines Example

1. No use of elevator while traveling down by personnel without tools or material. Personnel without tools or material should use the stairs. Personnel with lunch box at end of shift should walk down.
2. **Within the first hour of each shift**, the elevator will transport people who are empty handed or carrying a lunch box to Elevations 568', 643', and 697'. The elevator will only stop at Elevations 515', 530', 546' **if material or buggies are involved**.
3. Elevators will be staffed during breaks and lunch for Southern Company and Operating Company personnel use. Craft personnel are expected to take break and eat lunch in place. Craft personnel should not ride the elevator during breaks or lunch.
4. Elevator security personnel and operators should question anyone who is not following the above guidelines.
5. SCS Coordinators, General Foreman, and Area Supervisors will be permitted empty handed travel on the elevators as required to supervise work on multiple levels.
6. Please get the hardhat number of anyone suspected of abusing this policy and contact designated Coordinator (Linc 15*XXXX) immediately.

Attachment E: Foreman Training

Productivity Improvement Measures - Front Line Supervision

Adequate contractor craft supervision training to include the following:

- Safety.
- Performance management.
- Productivity.
- Leadership.
- Motivation.
- Integrity.
- Image.
- Behavior.
- Professionalism.
- Relationships.
- Disputes, conflicts, and negotiations.
- Communication.
- Modularization and fabrication.
- Planning and scheduling.
- Documentation and record keeping.
- Material handling and site planning.
- Job cost control.
- Labor tracking.
- Labor Broker Training, if applicable.
- Work Planning and Execution process using Foreman Work Plan books.

Attachment F: Foreman Work Plan Book

Contents	Minimum Required Content	Optional Content
Section 1 Foreman Roles and Responsibilities	• Foremen Pre-Assignment Planning Checklist • Foreman/General Foreman/Coordinator Acknowledgement Sheet • Craft Supervision Roles and Responsibilities	• Supervisor Training and Expectations • Supervision Models – Types of Foremen • Productivity Supervisor Expectations
Section 2 Project Work Rules	• Southern Company Project Security Rules • Project Security Rules for Labor Broker Employees • Contractor Shift Schedule • Elevator Operating Guidelines	• Work Rule bulletins • Foreman Disciplinary Process • Vest Identification Guideline Standard and Craft Hardhat Designations • Tobacco Policy, if stated • Critical deadlines for General Foreman/Foreman • Routine Meeting Schedule
Section 3 Project Safety	• Job Safety Briefing • Site Emergency Action Plan • Facility Evacuation Plan • Monthly Tool Color Code Chart • Step Observation Checklist	• Clearance Forms by Equipment • New Hire Safety and Health Orientation • Job Safety Analysis Training • Site Specific Barricade Procedure • Site Specific Blue Vest Program • Heat Stress Information • PPE Catalog • Wind Sock Wind Speed Indicator • Confined Space List • Safety Recognition Program • Productivity Recognition Program • Scaffold Tag Identification
Section 4 Overall Work Scope	• Total Project work scope and milestones	
Section 5 Work Orders for My Scope of Work	• Maximo Work Orders used by Contractor	• Job Planning Checklist by Maximo Work Order
Section 6 Schedule for My Scope of Work	• Primavera schedule for contractor's SOW	
Section 7 Job Plan for My Scope of Work	• Work Planning Checklist	• Line List/Quantities • Scaffold Management Process • Scaffold Request Form • Contractor Timesheet • Contractor Daily Construction Report • PDMS Installation Cards by equipment

Contents	Minimum Required Content	Optional Content
Section 8 Material Requisition	• Equipment/Material Withdraw Authorization Form • Warehouse Procedures Addendum – Requisitioning • Warehouse Procedures Addendum – Receipt of Returned	
Section 9 Logistics	• Site Logistics Plan • Work Area Logistics Plans	
Section 10 Productivity/Direct Work Expectations	• Productivity Checklist	• Commodity Rules of Credit • Overall Rules of Credit • Weekly Report with metrics and unit rates
Section 11 3 Day Look Ahead	• Daily Log Form/Three Day Look Ahead	• Daily Meeting Agenda • Weekly Meeting Agenda
Section 12 Contact Information Lists	• SCS Organization Chart • SCS Contact List • Contractor Contact List • Contractor Organization Chart	
Section 13 Technical Information		• Drawings • Site Specific Steel Erection Plan • Structural Steel Technical Spec • Structural Welding Technical Spec • Lifting Plan
Section 14 Quality		• Inspection and Testing Plan (ITP) • Quality Assurance Surveillance Checklist • Welding Manual Information • Welder Certification Log • Visual Weld Inspection Report • Inspection of Bolted Connections – Load Indicator Washers • Verification of Required Minimum Bolt Tension • Grout Pre-Placement, Placement, and Post-Placement Records • Electrical Equipment Test Sheets – Transformers, Panel and Bus Bar, AC Motor Megger, etc. • Off-shift/Holiday Weekend Site Prep Checklist • Miscellaneous Equipment Inspection Checklists • Prevention of Foreign Material

Attachment G: Weekly Productivity Meeting Agenda Example

Weekly Work Plan

Each Tuesday in Conference Room __
9:00 a.m. – 9:30 a.m.

Meeting facilitator:

Attendees: Mechanical General Foremen, Civil General Foremen, Electrical General Foremen, Instrumentation General Foremen, SCS Leads, Start-up, Hydro, Scaffolding

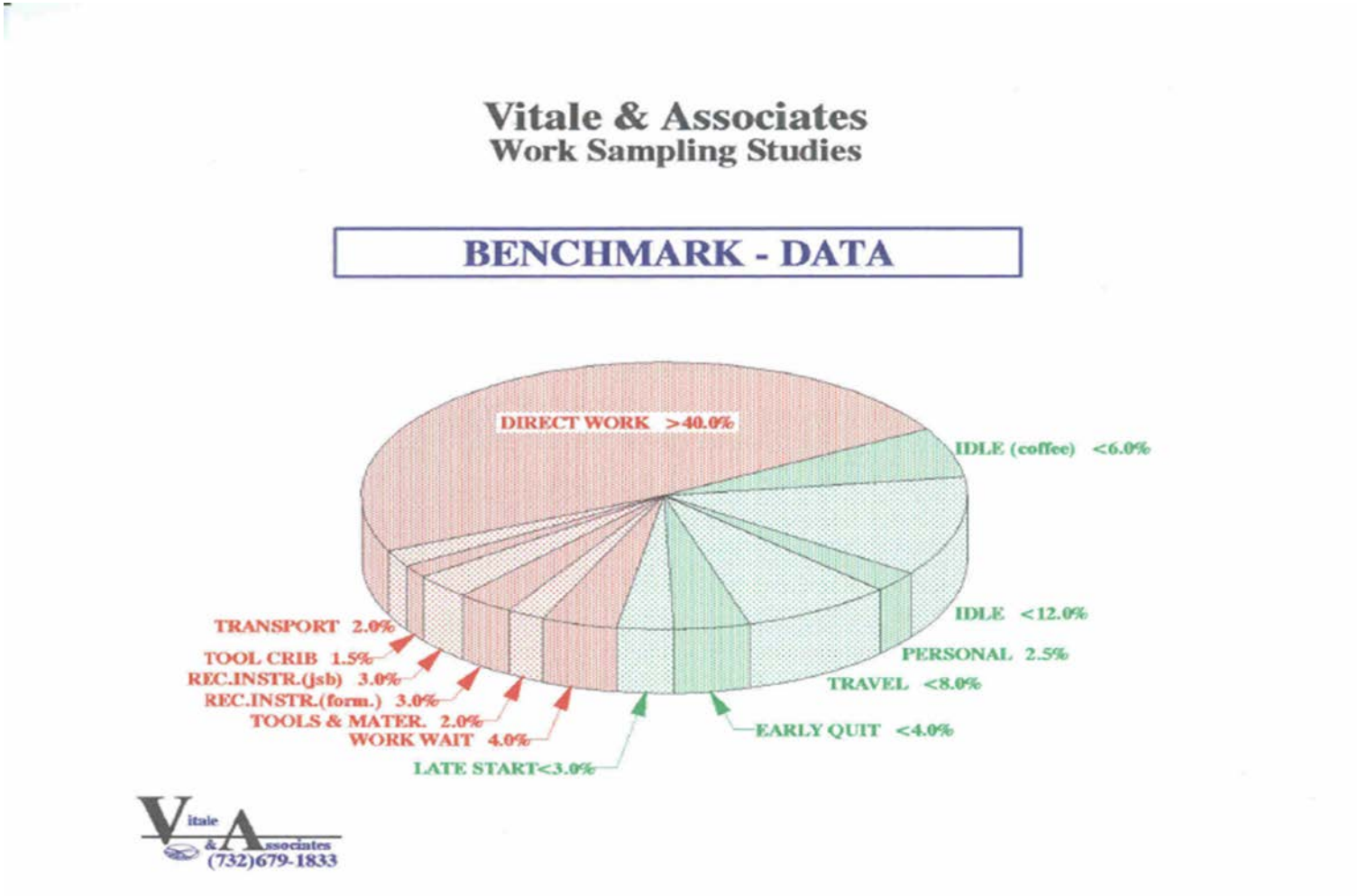
Please bring: Previous weeks installed quantities, labor hours, number of Safety first aids & recordables, reasons for schedule interruptions
Next week's scheduled work

9:00 a.m. – 9:15 a.m.	**Review Previous Week's Accomplishments** *General Foremen*
9:15 a.m. – 9:30 a.m.	**Review Next Week's Plan** *General Foremen*

Additional Instructions:

- Information will be entered into the tables that are posted on the walls by each General Foreman on Monday prior to each Tuesday meeting.
- General Foremen will discuss the previous week's accomplishments for their foremen. During the first 15 minutes, the General Foremen will discuss why the targets were achieved or not. Issues and action items will be addressed or assigned.
- During the final 15 minutes, the General Foremen will discuss next week's work plan.
- Start-up, Hydro, Piping, & Scaffolding representatives will comment on this work, where appropriate. The General Foremen will adjust their respective work plans after agreement is reached.

Attachment H: Vitale – Productivity Study – Benchmark



Attachment I: Productivity Study Guidance

Productivity Studies

Guidance for SCGen Plants and Capital Projects

April 17, 2014

This document provides recommendations and guidance relating to productivity studies of plant maintenance forces, both internal and contracted, and construction project labor. While it is recognized that productivity studies based on work observations are not an exact reflection of actual work output, the studies recommended are a statistical analyses and assessment and that serves as an effective tool to achieve optimal work efficiency. Until an alternative methodology to effectively measure work productivity is developed, productivity studies using work sampling methodologies should be incorporated into maintenance and project management processes to assist the plants and projects in labor utilization.

As stated, work sampling methodology studies do not measure work output. Instead, the results identify the average amount of time each worker included in the study is spending on desired work activities which is referred to as direct work or "wrench time". In addition, the studies categorize the other time spent in a work shift whether it is related to the expected activities such as "receiving instructions, moving material, etc., or time spent on undesired activities such as early quit, idle time, etc...

In planning for a productivity study at a plant during an outage, large capital project or for routine maintenance, the appropriate funding should be budgeted. The costs can vary widely and are dependent on the number of technicians required and length of the study. These variables are primarily influenced by the size of the workforce, number of shifts worked, and the size and physical arrangement of the area covered in the study. With the budget pressures typically encountered, it may be difficult to rationalize the prioritization of funding for a productivity study while potentially eliminating equipment purchases or repairs to meet budget. However, assuming the study recommendations are implemented, the resulting improvements in productivity can far exceed these costs and should be considered a prudent investment.

Study Expectations:

The studies are conducted by a 3rd party consultant selected for the System based on methodology, costs, usefulness and format of the data and reports, and consistency for trends and comparisons. Prior to each study there should be communications between the designated plant/project contact and consultant to verify the number of craft and different contractors for each shift to be studied, shifts to be worked, general scope and work areas, etc.. The consultant should be given the opportunity to meet with the contractor(s) and/or maintenance forces Team Leaders beforehand to explain the process and communicate other logistical details and expectations. It should be communicated to the parties being studied that the results are not necessarily reflecting poor performance of any individual or work groups but is a reflection of the processes and their respective management's effectiveness to enable the workers to be successful. During the study, concurrent feedback on "low hanging fruit" type of

opportunities should be expected from the consultant. In addition, should the consultant's team of technicians observe a consistent trend in unsafe behaviors such as not wearing appropriate PPE or any unsafe act of a more serious nature, the appropriate plant contact should be notified. The same expectation should apply to any observations of other serious inappropriate behavior. The consultant team is not there to police the contractor or maintenance forces; however, they should be expected to notify us should certain types of activities, behaviors, or equipment conditions be observed.

The final reports should be reviewed with the appropriate plant management and at some point with the contractor and/or maintenance forces supervision. If the data reflects significant opportunities for improvement, the tendency for many groups is to dismiss the data and/or make excuses for the results. The responsible management should objectively review the information and data in the final report and seek to incorporate the resulting recommendations into plant/project processes, organizations and expectations. In summary, expectations of the study participant groups are as follows:

Plant/Project:

- Notify consultant and Planned Outage & Labor Manager of desired dates and duration of study
- Provide consultant with study details such as staffing numbers in study, shifts, work areas, etc. and secure office with internet connections
- Schedule and facilitate meeting with contractor and/or maintenance forces supervision after mobilization of consultant team to discuss study details and to explain purpose and intent of study
- Share expectations with consultant on communication contacts, frequency of updates, concurrent improvement opportunities and irregular activities
- Facilitate meetings with appropriate plant management, contractor supervision and/or maintenance forces to review results
- Objectively review report details and implement recommendations to improve
- Share best practices and/or lessons learned with peers at other plants

Consultant Team:

- Provide proposal of costs for study to plant/project contact
- Communicate study details and logistical needs
- Provide concurrent feedback for improvement opportunities
- Notify appropriate contact of any irregular activities and or issues/problems that occur
- Conduct study as per stated methodology based on statistical analyses of required number of observations to achieve a high level of confidence (95% – 100%)
- Maintain frequent communications with appropriate supervision of contractors and/or maintenance forces to stay abreast of changes in work assignments/areas, reductions or increases in staffing, etc.
- Provide timely report and communicate results to plant/project management, contractor and/or maintenance forces supervision and Planned Outage & Labor Manager

Contractor Management (if applicable):

- Cooperate with Consultant Team in providing timely and accurate information on work assignments and staffing
- If requested, identify supervision and specific crafts with specific marking of hard hats or other methods
- Demonstrate objectivity and receptiveness to information on opportunities and resulting recommendations
- Cooperate in implementation of process improvements, communicate workforce expectations as necessary and make staffing changes as directed.

Attachment J: Peer Review Findings Example

May 13, 2014

Improvements:

1. Elevator Plan implemented
2. Early quits/ Late starts better
3. Breaking in place better
4. Standardized break times implemented
5. Followed elevator plan better
6. Organization/Communication improved
7. Using horn to signal work time
8. Most people work with an improved sense of urgency

Observations:

1. Need Scaffold Plan
    a. Scaffold craft not working/standing
    b. Appears scaffold craft over staffed for current plan
    c. Scaffolds completed to late (ex.Scaffold completed too late, however, it had to be reworked, PCI Pipefitter waiting for modifications)
    d. Scaffold not signed off at start of shift
2. Material handling issue – Crew at the coal dryer needed pipe – had been requesting for 2 weeks.
3. Early quits/ late starts – expectations
4. Leaving building for lunch – small group
5. Empty handed crew getting on the elevator at 12:10
6. Elevator operated at Lunch

Recommendations:

1. Develop a scaffold plan and process
2. Evaluate scaffolding staffing
3. Clear accountability

Attachment K: List of Productivity Improvement Items Example

Actions Taken

- Briefed Coordinators & Contractor Supervision on Productivity Initiative – Work Rules, Elevator Policy, JSAs, Logistics, Work Planning, Coordinator Roles & Responsibilities – to establish consistent expectations
- Communicated that Breaks and Lunch would be at job site (in place) for each crew
- Created Gasifier elevator use plan to reduce idle time
    - Utilized Security personnel to assist with rule compliance
- Implemented Common Break and Lunch schedule for each shift – same times for all contractors and crafts
    - Added Horn to signal shift, break, lunch starts/stops
- Moved vending machines outside the gates
- Focused on Coordinator field presence
- Created Logistics Plan
    - Picnic tables
    - Portable johns (# and locations)
    - Hand wash stations (# and locations)
    - Brass out/badge out locations
- Joint Contractor-SCS Productivity walk downs
- Weekly Productivity Review meetings
- Dedicating staff resources to solely focus on work rule compliance and fab area improvements
- E&I work planning/execution/review process, based on McDonough 6 & Kemper CC process, to increase first line ownership and accountability for productivity and schedule targets
- Scaffolding plan improvements
    - Dedicated Scaffolding crews assigned to Contractor crews
    - Walk downs to create and refine demolition list
    - Integrated Scaffolding plan into E&I work planning/execution/review process
- Daily E&I Work Plan meetings to remove road blocks and coordinate work
- Weekly E&I Work Plan meeting to review past week accomplishments
- Reduced the number of golf carts and buggies
- Implemented 72 hour scaffolding request period to promote planning ahead
- Dedicated E&I Planner for Gasifier E&I Work Plan
    - Creates look-ahead weekly plan for Instrumentation work based on Path to T.O.D. priorities
    - Includes look-ahead scaffolding needs
- Obtained full-time elevator technician to improve elevator availability
- Implemented procedure for accounting for removed instruments, thereby improving time spent searching for or reordering instruments