Subject: **COG, RLM, Project Manager and System Engineer Selection and Training**	**Effective Date:** **June 16, 2016**	**Initiated by:** **Head, Office of Project Management**
	Supersedes: Revision 0 and TCRs 001 and 002	**Approved:** **Director**

Management System (Primary):   **03.00 ENGINEERING (ENG)**
Management System Owner: **Head, Engineering and Infrastructure**
Management Process: **03.06 Technical Project Management**
Process Owner: **Head, Engineering and Infrastructure**
Sub-Process: **03.06.01 Development, Training, Qualification and Appointment of Project and Program Directors and Managers**
Sub-Process Owner: **Head, Project Management**
Subject Matter Expert: **Head, Project Management**

APPLICABILITY

This procedure applies to all jobs and projects where a Cognizant individual (COG), a Responsible Line Manager (RLM), a Project Manager (PM), or a System Engineer (SYS ENGR) will be selected to own and execute a job or project per the purview of Work Planning procedure ENG-032.

INTRODUCTION

This procedure defines the processes and criteria for selecting candidates for COG, RLM, PM and SYS ENGR; providing training and ensuring qualification; and appointing qualified individuals to serve in these positions for specific jobs and projects. The selection of candidates and the appointment of individuals shall be made based on job/project needs.

SCOPE

The COG, RLM, and Project Manager refer to individuals assigned job and project work to design and implement changes to system and spaces and for collaborations per Work Planning ENG-032 and the Project Management Flow Chart in ENG-032 and on the PM web site. The COG, RLM, and PM report on their job/project deliverables to the respective requesting department and stakeholders. The Office of Project Management (PMO) oversees the process for executing these jobs and projects to ensure compliance and consistency. COGs provide technical, cost, schedule, and safety support to perform and complete jobs and projects. RLMs provide oversight and direction and typically have signature authority on budget; RLMs at the Department level may perform the role of requesting or performing department head as needed per ENG-032. Project Managers provide project management and control for larger jobs, collaborations, and capital projects when needed or at the discretion of the RLM. System Engineers are responsible for the design, Preventative Maintenance requirements and Operation Procedures of assigned systems.

The Office of Project Management shall provide or arrange the necessary training and maintain the lists of qualified individuals permitted to execute jobs using the online Work Planning System. All training and presentation materials shall be reviewed and approved by the Head of Engineering and Infrastructure.

For Technical Procedures per ENG-030, the Accountable Technical Individual (ATI) is appointed by the RLM. The ATI is responsible for the technical content and accuracy of the procedure and is part of the team that develops, reviews, approves, and implements a procedure. The ATI can be the Principal Investigator (Physicist), Engineer, COG, System Engineer, Field or Operations Supervisor, or other subject matter expert. The ATI role is determined by the RLM for each technical procedure; ATI not included in this training procedure.

Per ENG-033 Design Verification, a Design Review Chairperson is selected and appointed by the PMO and approved by the Head of Engineering to chair certain types of design review areas. The DRC role and responsibilities are defined by ENG-033 Attachment 7 and are not included in this procedure.

For capital projects where a Project Execution Plan and EVMS reporting are required per DOE Order 413.3B, the COGs assigned to execute jobs within the project work breakdown structure (WBS) will receive project specific PEP and advanced EVMS Control Account Manager (CAM) training. This training will be approved by OPM and build on COG training, roles, and responsibilities as set forth in this procedure. (CAM is a Project Management and industry standard term with complimentary but more advanced duties than required of a PPPL COG.)

This procedure is organized in the following sections:

A. **Selection, training, qualification and appointment of Cognizant Individual (COG)**

B. **Selection, training, qualification and appointment of Responsible Line Manager (RLM)**

C. **Selection, training, qualification and appointment of Project Manager (PM)**

D. **Selection, training, qualification and appointment of System Engineer (SYS ENGR)**

DEFINITIONS

COG   Cognizant engineer, physicist, or staff that performs the job management function for technical, cost, schedule, ES&H, and risk associated with the job per procedure ENG-032 Work Planning and associated procedures.

RLM   The Responsible Line Manager that has oversight responsibility for technical, cost, schedule, ES&H, and risk associated with the job per procedure ENG-032 Work Planning.

Note: For capital projects where a formal WBS structure is used or for smaller jobs with a graded approach as needed, the RLM will perform duties as a Control Account Manager to status the job for EVMS per the PMSD.

Project Manager The manager who is assigned responsibility for a larger job or group of jobs forming a project or capital project and who is responsible for meeting the requirements of the Project Management System Description for the associated project. The PM may have multiple COGs, RLMs or PMs providing support to a larger project or function singularly to provide all aspects of project

	management and control for a particular smaller project.
System Engineer	The System Engineer is the knowledgeable and authoritative subject matter expert on a type of equipment, system, or subject matter per selection and appointment by the Head of Engineering.
Supervisor	The supervisor for a staff member is the organizational unit line manager, host, advisor, or other lab manager having responsibility for personnel. This individual may or may not be trained as a qualified Responsible Line Manager per ENG-032 and this procedure. A supervisor may not act in the capacity of a RLM until the training requirements of this procedure have been met and the supervisor is approved as an RLM by the Head of Engineering.
EVMS	Earned Value Measurement System – system for evaluating a project and its progress based on budget, earned value, actual cost, performance indices, and variances.

REFERENCES

ENG-032	Work Planning
PMSD	Project Management System Description
DOE 413.3B	Program and Project Management for the Acquisition of Capital Assets

PROCEDURE

A. Cognizant Individuals (COG)

A.1. Selection of COG Candidates

A new candidate to be trained as a COG needs educational credentials, technical expertise, ES&H awareness, and cost and schedule responsibilities commensurate with the complexity and difficulty of the assigned job to own and execute the job in compliance with PPPL procedures. (See Training section below.)

RESPONSIBILITY ACTION

Supervisor/RLM	1. Recommends a research, engineering, or technical staff member with sufficient experience, education, or appropriate background as a candidate to become a COG to the Office of Project Management.
Office of Project Management	2. Screens candidates based on technical, project management, and ES&H experience and the level of jobs expected to be encountered.

Head of Engineering 3. Approves the selection of a candidate to become trained and qualified as a COG.

A.2. Training and Qualification of COGs

The online Work Planning system contains the list of trained and approved COGs.

RESPONSIBILITY ACTION

COG Candidates and Active COGs 1. Attends initial COG training and periodic training provided by the Office of Project Management in order to acquire and maintain qualification as a COG.

New COG training

Office of Project Management 2. Provides new candidates for COG with individual training and discussion. Training will include read-only training and instructional discussion of pertinent ENG procedures; and an introduction to Project Management, the Earned Value Measurement System; and deliverables for expediting a job. (COG/RLM online training)

3. Documents the training on a formal training sheet as a qualification and forwards to the Training Office. (COG/RLM online training notification)

4. Adds the individual to the online Work Planning system as a COG upon successful completion of training.

Ongoing (annual) Training for COGs, RLMs, and PMs

Office of Project Management 5. Holds training on an annual basis to update COGs on the changes in ENG procedures and requirements for Project Management and EVMS at PPPL. This annual training will also be used as an opportunity for feedback and continuous improvement from stakeholders to the Office of Project Management.

6. Provides periodic updates by email distribution when necessary.

7. Provides periodic specific procedure training to go into more detail than at general sessions.

8. Documents the training on a formal training sheet as continuing qualification as a COG and forwards to the Training Office

9. Maintains the list of trained and approved COGs within the online Work Planning system.

A.3.   Appointment of COGs to a job/project

Appointment of COGs to jobs must be carefully considered. COGs are expected to own and expedite the job in accordance with PPPL procedures. Experience commensurate with the assignment in terms of technical, cost, schedule, ES&H, and collaborative experience must be evaluated.

RESPONSIBILITY   ACTION

COG assignment to a New Job

RLM   1. The RLM shall select the specific COG for a new job at the job initiation phase.

COG Change

RLM   2. Recommend changing the COG assigned to a job based on the development path of a job. The recommendation is made to the Office of Project Management.

            3. If approved, the Office of Project Management shall update the Work Plan to the newly selected COG and/or RLM and make appropriate notifications of the change.

Office of Project   4. Reviews requests for assigning or changing a COG assigned to a job,
Management   assures that training has been completed, and recommends approval of appointment, as appropriate.

            5. Updates approved changes to the assigned COG in the Work Plan and makes appropriate notifications of the change.

Work Planning   6. Reviews all new Work Plans and evaluates the designated COG assigned
Review Board   to the work and recommends a COG change if needed.
(WPRB)

Head of Engineering 7. Approves the COG selection/change for a specific job (usually at the WPRB).

B.   Responsible Line Manager (RLM)

B.1.   Selection of RLM candidates

A new candidate for RLM needs training and qualifications including educational credentials, technical expertise, ES&H awareness, and cost and schedule responsibilities commensurate with assigned jobs and projects to own and oversee a job in compliance with PPPL procedures. (See Training section below.)

RESPONSIBILITY	ACTION
Department Head	1. Selects a staff member to become an RLM -- based on an individual's rank, position, and experience – and refers the individual to the Office of Project Management for training.

To be considered for qualification and designation as a RLM, an individual will typically meet the following prerequisites unless waived by Head of Engineering:
• Engineering/Physics degree
• Technical, ES&H, and PM experience commensurate with jobs and projects
• Rank of Division or Department Head or Project Manager reporting to the Department level. |
| Office of Project Management | 2. Reviews and evaluates candidates based on technical, project management, and ES&H experience and the level of jobs expected to be encountered and provides a recommendation to the Head of Engineering. |
| Head of Engineering | 3. Approves the selection of a candidate to become trained and qualified as a RLM. |

B.2. Training and Qualification of RLMs

RESPONSIBILITY	ACTION
RLM Candidates and Active RLMs	1. Attends initial RLM training and periodic training provided and arranged by the Office of Project Management in order to acquire and maintain qualification as a RLM.
Office of Project Management	**New RLM training**

2. Provides new candidates for RLM with individual training and instructional discussion. Generally, the RLM will have been a COG for some period of time appropriate to their purview. If not, the candidate will complete COG training (as described in section A.1.) in conjunction with obtaining the RLM qualification. |
| ESH Department | 3. Provides new candidates for RLM with instructional discussion on ES&H topics, including review of ESHD-5008 Directives and ESH-004 Job Hazard Analysis. |
| Head of Engineering | 4. Evaluates the candidate and approves the candidate as a RLM upon successful completion of training. |

Office of Project Management	5. Documents the training on a formal training sheet as a qualification and forwards to the Training Office
	6. Adds the individual to the online Work Planning system as a RLM and to the RLM list maintained on the Engineering webpage.
	Ongoing (annual) RLM Training
Office of Project Management	7. Holds training on an annual basis to update RLMs on the changes in ENG procedures and requirements for Project Management and EVMS at PPPL. This annual training will also be used as an opportunity for feedback and continuous improvement from stakeholders to the Office of Project Management.
	8. Provides periodic updates by email distribution when necessary.
	9. Provides periodic specific procedure training to go into more detail than at general sessions.
	10. Documents the training on a formal training sheet as continuing qualification as a RLM and forwards to the Training Office.
	11. Maintains the list of trained and approved RLMs within the online Work Planning system and the RLM list maintained on the Engineering webpage.

B.3.   Appointment of an RLM to a job/project

A new job needs an RLM selection to own and oversee the job in accordance with PPPL procedures.

RESPONSIBILITY   ACTION

	RLM assignment to a New Job
Department Head	1. Selects an RLM from the approved list who is appropriately qualified and skilled for the new work scope. This selection is done as part of the job initiation phase.
WPRB	2. Reviews all new Work Plans and evaluates the designated RLM selected for the work and recommend changes if necessary.
Head of Engineering	3. Approves the RLM selection and any changes for each job.

C.   Project Manager (PM)

C.1.   Selection of PM candidates

A new candidate to be trained and qualified as a PM shall have or obtain adequate educational credentials, technical expertise, ES&H awareness, and cost and schedule responsibilities to own and oversee a project in compliance with PPPL procedures, the PMSD, and DOE Order 413.3B. (See Training section below.)

RESPONSIBILITY   ACTION

Department Head

1. Suggests individuals to be considered for qualification as a PM -- based on an individual's rank, position, and experience – and refers the individual to the Office of Project Management and Head of Engineering for consideration.

    To be considered for qualification and designation as a PM, the PM candidate shall have appropriate professional credentials or equivalent experience for the subject matter associated with the project. In addition, the candidate must have experience commensurate with the assignment in the following subject areas:

    1. General Project Management
    2. ES&H Management
    3. Team Building/Supervision
    4. Scope Management
    5. Communication Management
    6. Cost Management
    7. Risk Management
    8. Resource Loaded Schedules
    9. Quality
    10. Procurement & Contracts
    11. Interface, Systems, and Integration
    12. Project Closeout Management

Office of Project Management

2. Screens candidates based on technical, project management, and ES&H experience, the requirements listed in step 1., and the level of the projects expected to be encountered.

Head of Engineering

3. Approves the selection of a candidate to become trained and qualified as a PM.

C.2. Training and Qualification of PMs

RESPONSIBILITY   **ACTION**

PM Candidates and Active PMs

1. Attends initial PM training and periodic training provided and arranged by the Office of Project Management in order to acquire and maintain qualification as a PM.

2. Completes read-only training on the PMSD.

3. Completes read-only training o DOE Order 413.3B, if applicable.

4. Possess or obtain project management credentials or equivalent PM experience, which can include but is not limited to Project Management Institute Project Management Professional (PMI PMP) or similar certification, as deemed appropriate by OPM and the Head of Engineering.

New PM training

Office of Project Management

5. Provides new candidates for PM with individual training and instructional discussion. Generally, the PM will have been a COG or RLM for some period of time appropriate to their purview. If not, the candidate will complete COG/RLM training (as described in sections A.1. and B.1) in conjunction with obtaining the PM qualification.

6. Provides or arranges any other internal or external training pertaining to the specific project as determined necessary by OPM and the Head of Engineering in keeping with project management best practices and as appropriate for the specific project.

ESH Department

7. If the candidate is not already a RLM, provides new candidates for PM with instructional discussion on ES&H topics, including review of ESHD-5008 Directives and ESH-004 JHAs.

Head of the Planning and Control Division

8. Provides new candidates for PM with instructional discussion covering Business Systems, PMSD, Earned Value Measurement System and deliverables.

Head of Engineering

9. Evaluates the candidate and approves the candidate as a PM upon successful completion of training.

Office of Project Management

10. Documents the training on a formal training sheet as a qualification and forwards to the Training Office

Ongoing (annual) PM Training

Office of Project Management	11. Holds training on an annual basis to update PMs on the changes in ENG procedures and requirements for Project Management and EVMS at PPPL. This annual training will also be used as an opportunity for feedback and continuous improvement from stakeholders to the Office of Project Management.

12. Provides periodic updates by email distribution when necessary.

13. Provides periodic specific procedure training to go into more detail than at general sessions.

14. Documents the training on a formal training sheet as continuing qualification as a PM and forwards to the Training Office.

15. Maintains the names of trained and qualified PMs.

C.3.   Appointment of a PM to a project

Project Manager appointment to a project shall be made based on project scope, size, priority, and risk factors and project need. PM selection shall be required for any capital project, any significant GPP project, and any PPPL job or collaboration with sufficiently high visibility to warrant a PM designation. Each new project needs a specific PM selection to own, oversee and manage the project in accordance with PPPL procedures. In the event that a PM change must be made during a project the following also applies to make a change in appointment.

RESPONSIBILITY | **ACTION**

Department Head	1. Evaluates requirements for the project at the initiation phase of a project. Communicates requirements to the Head of Engineering and may recommend a Project Manager selection based on project need.
Head of Engineering	2. Recommends a PM or evaluates recommendations and approves a Project Manager selection for large projects, capital projects, or GPP projects based on project scope, cost, schedule, and risk of the project and training, qualifications, skills and experience of the Project Manager.

The Project Manager shall meet the requirements set forth in sections C.1 and C.2 and possess:
- Technical and project management education and experience commensurate with the project requirements.
- Appropriate project management credentials associated with outside or educational institutions OR equivalent experience per PMO evaluation.
- Subject matter expertise similar or relevant to the specific project in question, may be a subject matter expert, or have significant or unique experience applicable to the project requirements.
- Project Planning and Control experience required for the scope and size of the project.

Deputy Director Operations, Deputy Director for Research, and Head of Engineering

3. Approve of the PM appointment.

D. System Engineer Selection, Training, and Appointment

The System Engineer is the knowledgeable and authoritative subject matter expert on a type of equipment, system, engineering discipline, or subject matter per selection and appointment by the Head of Engineering. The System Engineer has responsibility for the system design and design basis, definition of preventive maintenance per ENG-016, electrical equipment safety approvals/inspections per ENG-023, operations procedures per applicable portions of ENG-030, and system knowledge of drawings and interfaces. The System Engineer is responsible for any safety inspections/approvals and the commissioning of the system. The System Engineer selection is made based on the body of knowledge, experience, and education of a member of Engineering Staff. The appointment is documented on the System Engineer list maintained on the Engineering Department web page. A read-only training is required on ENG-033 Design Verification, ENG-010 Drawings, ENG-016 Preventive Maintenance, and ENG-030 Technical Procedures if the individual is not already a COG per this procedure.

Responsibility	Action
Head of Engineering	1. Selects System Engineer.
PMO	2. Provides appropriate training based on individual's background for the System Engineer position.
	3. Provides updates to System Engineers as Procedures are changed.
System Engineer	4. Completes training as needed (COG/RLM online or procedure training) and ENG-016 Preventive Maintenance.
Head of Engineering	5. Approves System Engineer for position when training is complete.
PMO	6. Adds System Engineer to ENGR DEPT. SYSTEM ENGINEER LIST.

TRAINING (SECTION REQUIRED FOR ALL PROCEDURES)

Author

1. Specifies the appropriate training methods and means (below) and obtains concurrence of the Management System Owner and the Management Process Owner.

   A. Target Audience: Department Heads assigning a new RLM
   Instructor:＿＿＿Head, Project Management＿＿＿＿＿＿
   Training Method:
   　X＿Read only

   Frequency:
   　X＿Once only

Management System Owner or Designee

2. Notifies the Human Resources Training Office of the training so that they will be aware of the training requirements and be able to provide assistance and guidance in the course development, implementation, tracking, and maintenance.

RECORDS REQUIREMENTS SPECIFIC TO THIS PROCEDURE

Records Custodians must assure records are maintained as follows:

Record Title	Record Custodian	Location	Retention Time
COG Training	Head of Project Management	Office of Project Management	Destroy when superseded or obsolete. *Reference: Admin 1 Personnel Records (29.2.d)*
RLM Training	Head of Project Management	Office of Project Management	Destroy when superseded or obsolete. *Reference: Admin 1 Personnel Records (29.2.d)*
Project Manager Training	Head of Project Management	Office of Project Management	Destroy when superseded or obsolete. *Reference: Admin 1 Personnel Records (29.2.d)*
Training/ Evaluation Forms	Human Resources	Human Resources	Cut off at the time of separation or transfer of the employee. Screen out and destroy all item 29.1a(4) records. Transfer folders with remaining documents to the local Federal Records Center. Destroy 4 years after cutoff. - All other performance plans and ratings. *Reference: Admin 1 Personnel Records (29.1.a)*
Engineering Department System Engineer List	Head of Project Management	Office of Project Management	Destroy when superseded or obsolete. *Reference: Admin 1 Personnel Records (29.2.d)*