DANIEL FOLLETTE Inc.

SkillForge™ Performance Information System™: Input/Output

A White Paper

software & systems

[performance]

This white paper provides an overview of a proprietary performance information system™ *based on SkillForge™ software. It shows overall data flow as well as the principal tools the system offers.*

Well-defined and effectively communicated information about work expectations, work methods and skills enables companies to improve individual and team performance. It also enables companies to manage more effectively. With this information, companies can

- standardize operations, reporting and work methods
- increase accountability
- reallocate work more efficiently
- implement teams, multi-skilling, skill-based pay and competency programs
- identify strategic repertoires of tasks, skills, procedures, training and resources that represent the company's distinct abilities
- reduce training development costs
- greatly reduce the costs and administrative load of training and competency programs
- assess the completeness, adequacy and any redundancy of training resources
- manage training inventory and classroom facilities
- track training and certification records
- conduct fair, objective performance evaluations

Daniel Follette, Inc. provides a proprietary performance information system to capture and manage knowledge that supports team and individual performance. The system captures and manages information about work structures, tasks, methods, skills and competencies, using performance information in much the same way that enterprise resource planning systems (ERPs) use financial and production data. The company's performance information system is based on SkillForge software and Repertoire™ work processes. SkillForge is a five-module program.

Skill Analysis & Testing Module defines work and competencies

The SkillForge performance information system begins with job information — the structure of job titles and their hierarchy. To this structure, the system adds comprehensive work descriptions from job task analyses. Figure 1 is a schematic of principal inputs and outputs of the SkillForge software *Skill Analysis & Testing Module.*

Figure 2 is a SkillForge task information capture screen. Tasks can be categorized at two levels. They can also be assigned to a specific skill area or job title, job level and area of the enterprise. (The categorization structure is customizable to match a company's needs.) Other information that can be paired with a task includes the frequency with which it is performed; its criticality, either to operations or safety; whether it requires a procedure; and whether it is a preventive maintenance or PSM task. The task/skill analysis module also permits linking procedures or resources to the task, to simplify procedures assessment and development of performance aids or training. SkillForge provides a section for general comments. Many users summarize task steps in this section.

Skill objectives, defined by similar

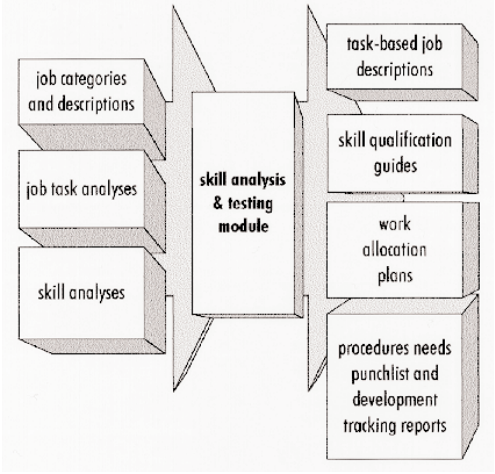


Figure 1: Schematic of principle inputs and work output from Skill Analysis & Testing Module. The module captures and categorizes information about work and skills and creates tools to improve work structure and communicate clear performance expectations.

analyses, are also managed by the system. Skill objectives represent the competencies required to perform the tasks.

Figure 3 shows the skill entry screen. SkillForge permits categorization of skills similar to those used to categorize tasks.

Skill input also permits assigning any number of *performance criteria* to skills, to make performance expectations very clear. In addition, the program links information that trainers and certifiers can use in their work—the type of skill, verification method and whether a skill can be evaluated with a written test or by observation.

Validity of work expectations

Validity of work expectations is an important human resources concern. Competency tests and skill definitions created by other means often require rigorous validation because they are externally imposed. EOC scrutiny can torpedo any subjective system.

Validity is created by using experienced

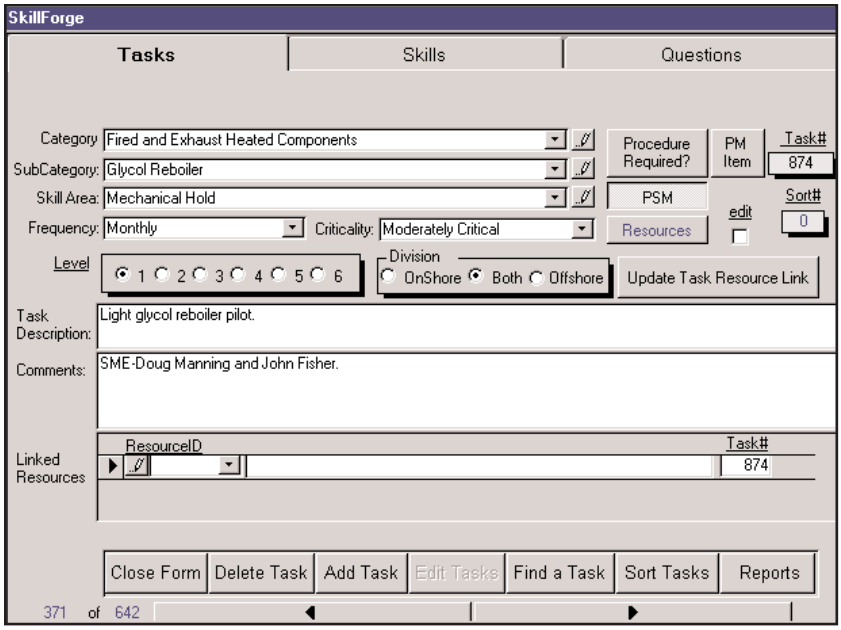


Figure 2: SkillForge task information capture screen with task properties and resource linking.

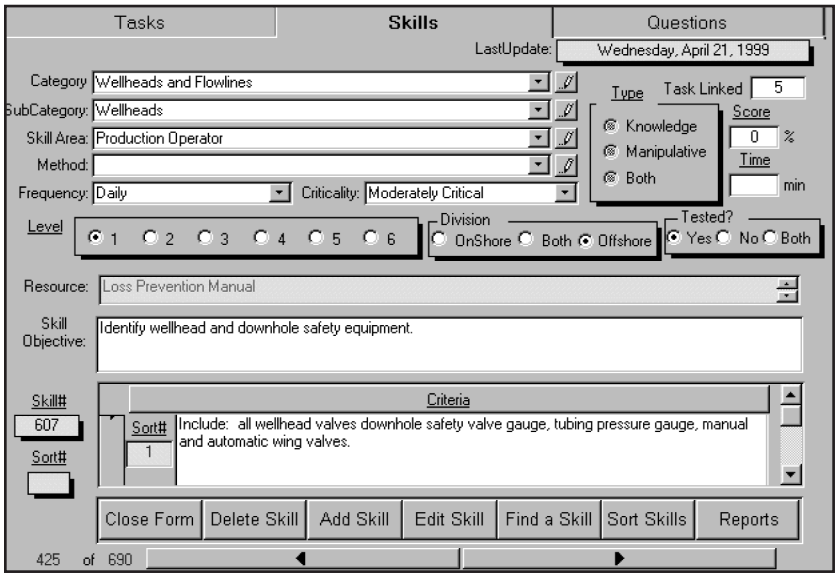


Figure 3: Skill entry screen with skill properties and performance criteria.

workers as the information source, by standards set for work definitions and by the system's audit trail. Repertoire processes build tasks and skills from grass-roots work definitions provided by competent performers. The people who perform the work can also provide critical skills criteria and testing items. The program identifies the tasks in which each skill is discovered to verify validity.

Task- and skill-based output

From task and skill information, the system creates a number of tools. These tools represent a comprehensive definition of a company's work.

Analysis of work assignments

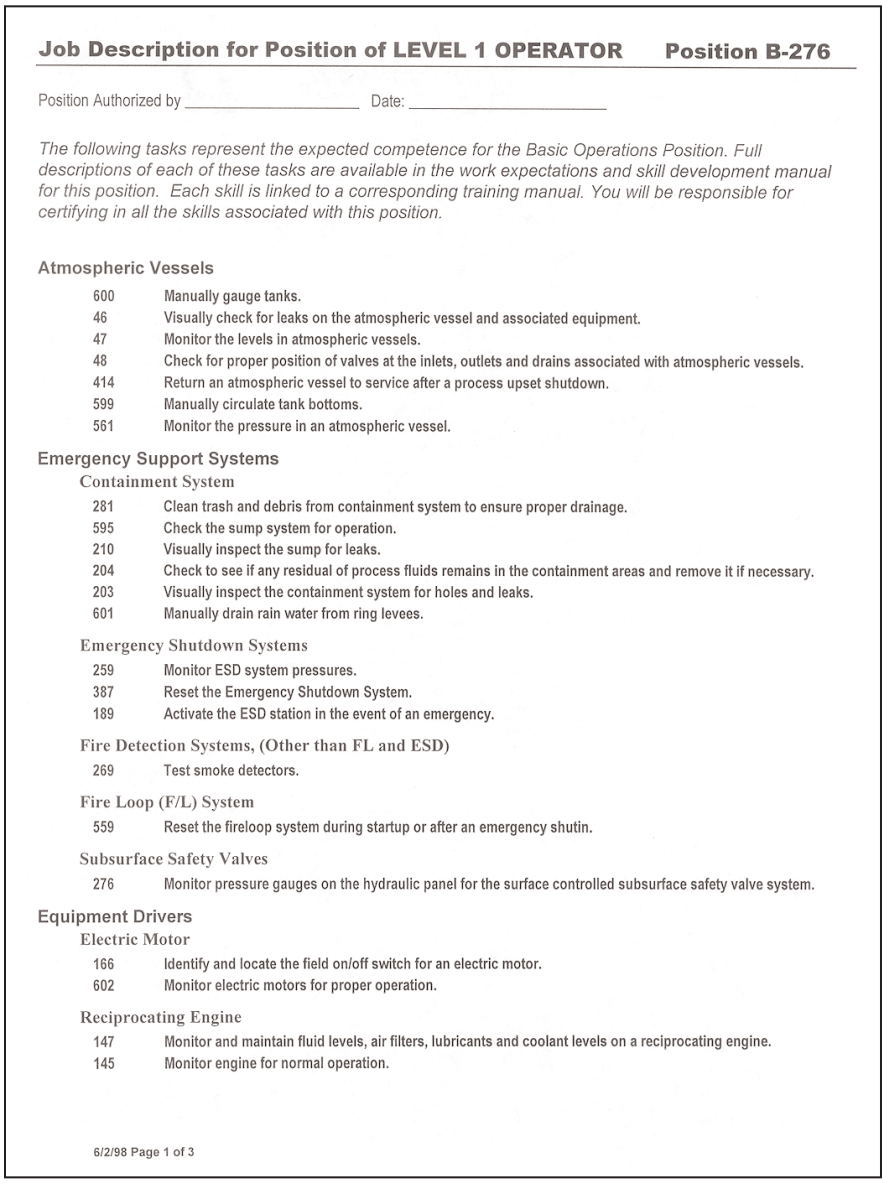
Figure 4 is a page from a task-based *Functional Job Description*. It demonstrates how specific tasks — which can be linked to procedures, notes and resources — provide more information about work expectations than activity descriptions. For example, the stated tasks for atmospheric vessels provide more information than activity descriptions like "operate and maintain tanks" or statements of responsibility like "atmospheric tanks" Task-based job descriptions can be fed directly into preventive maintenance or predictive maintenance programs. When coupled with information about how frequently a task should be performed, the system can provide a work punch list.

Figure 5 is a page from a *Job Work Analysis*. The client for whom this analysis was performed had a series of manuals—safety, loss prevention, emergency response, etc.—that specified or implied the work that individuals were expected to perform. Developers analyzed the manuals and collected task information to create a work-expectations profile. The reports enabled the company to identify unassigned or misassigned work, redundant assignments and unreasonable work loads. The result was a simplified work process.

Because task and skill information is captured in a relational database, realigning tasks and jobs is a simple process. All associated information comes forward with the tasks and skills.

Skill qualification guides

One of the most-used tools is the *Skill Qualification Guide* shown in Figure 6. The skill qualification guide lists all skills and criteria in a given skill area and level. The skills are grouped by the modules in which they are taught. (For full



Job Description for Position of LEVEL 1 OPERATOR **Position B-276**

Position Authorized by _____ Date: _____

The following tasks represent the expected competence for the Basic Operations Position. Full descriptions of each of these tasks are available in the work expectations and skill development manual for this position. Each skill is linked to a corresponding training manual. You will be responsible for certifying in all the skills associated with this position.

Atmospheric Vessels

600	Manually gauge tanks.
46	Visually check for leaks on the atmospheric vessel and associated equipment.
47	Monitor the levels in atmospheric vessels.
48	Check for proper position of valves at the inlets, outlets and drains associated with atmospheric vessels.
414	Return an atmospheric vessel to service after a process upset shutdown.
599	Manually circulate tank bottoms.
561	Monitor the pressure in an atmospheric vessel.

Emergency Support Systems

Containment System

281	Clean trash and debris from containment system to ensure proper drainage.
595	Check the sump system for operation.
210	Visually inspect the sump for leaks.
204	Check to see if any residual of process fluids remains in the containment areas and remove it if necessary.
203	Visually inspect the containment system for holes and leaks.
601	Manually drain rain water from ring levees.

Emergency Shutdown Systems

259	Monitor ESD system pressures.
387	Reset the Emergency Shutdown System.
189	Activate the ESD station in the event of an emergency.

Fire Detection Systems, (Other than FL and ESD)

269	Test smoke detectors.

Fire Loop (F/L) System

559	Reset the fireloop system during startup or after an emergency shutin.

Subsurface Safety Valves

276	Monitor pressure gauges on the hydraulic panel for the surface controlled subsurface safety valve system.

Equipment Drivers

Electric Motor

166	Identify and locate the field on/off switch for an electric motor.
602	Monitor electric motors for proper operation.

Reciprocating Engine

147	Monitor and maintain fluid levels, air filters, lubricants and coolant levels on a reciprocating engine.
145	Monitor engine for normal operation.

6/2/98 Page 1 of 3

Figure 4: Functional Job Description defines and groups task responsibilities.

information about module development, see training section, below.) Additional information in the guide enables an employee to perform a self-assessment of competence and locate any necessary training. (When guides are published as electronic documents, skills are connected to their corresponding training modules by hypertext links.)

The guide also indicates what kind of verification to expect. As self-assessment and verifications are completed, the employee and subject expert can record those completions. Making employees responsible for their personal development plan and tracking reduces administrative overhead and increases involvement.

Procedures Needs Report

SkillForge can also help manage procedure development. As individual tasks are being reviewed, developers can indicate whether they require procedures, using whatever criteria they feel is appropriate. Existing procedures or resources can then be catalogued and linked to the tasks. (See Figure 2.) Identifying what tasks need procedures and what procedures exist represent the first two steps in any procedures development. SkillForge goes further, by permitting developers or content specialists to assess the quality of any existing procedure or resource. A *Procedures Needs Report* (see Figure 24) produced by the system allows developers track and prioritize development.

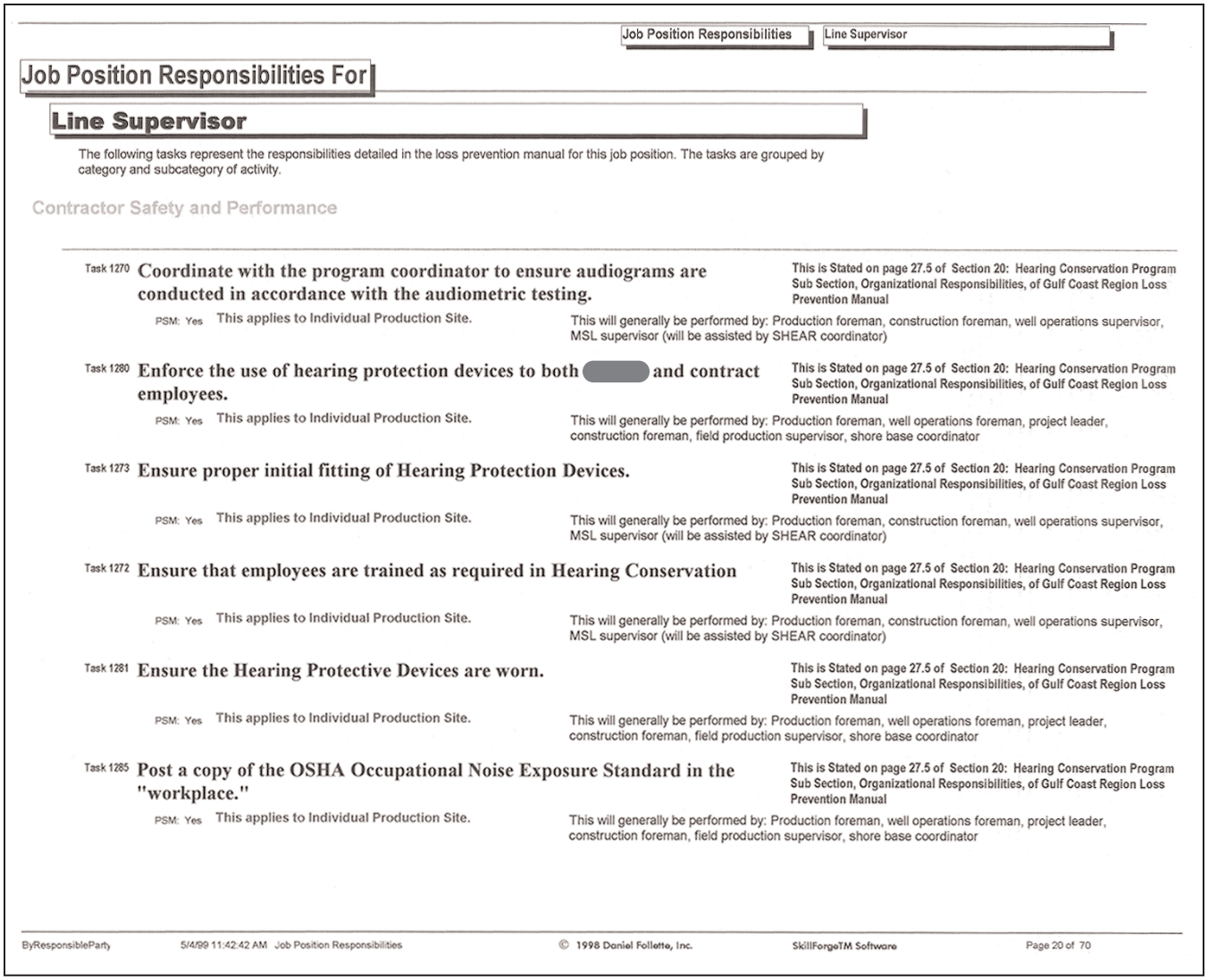
SkillForge™ maintains skill evaluation integrity and reduces administrative costs

SkillForge automates test development, test administration and reporting and allows linking of multiple banks of questions to each skill. The linkage between skill and test item helps provide test validity. Figure 7 shows the question input screens. Graphics can be inserted as a part of a question and as a part of the key. This permits the use of both multiple-choice and circle-the-answer question formats.

Each test is produced specifically for an individual. Figure 8 shows the first and second page of a typical test. When tests are scored, employees receive a comprehensive *Results Report*. The results report shows employees what skills they successfully passed and the skills for which they missed one or more questions. The report references both the skill number and the corresponding training module. Figure 9 is a sample results page.

Test Security

SkillForge produces doubly-randomized tests. No two tests are identical. The program first picks which bank of questions it will use for each skill. It then randomly orders and numbers all the selected questions. This is



Job Position Responsibilities | Line Supervisor

Job Position Responsibilities For

Line Supervisor

The following tasks represent the responsibilities detailed in the loss prevention manual for this job position. The tasks are grouped by category and subcategory of activity.

Contractor Safety and Performance

Task 1270 **Coordinate with the program coordinator to ensure audiograms are conducted in accordance with the audiometric testing.**
This is Stated on page 27.5 of Section 20: Hearing Conservation Program Sub Section, Organizational Responsibilities, of Gulf Coast Region Loss Prevention Manual
PSM: Yes This applies to Individual Production Site.
This will generally be performed by: Production foreman, construction foreman, well operations supervisor, MSL supervisor (will be assisted by SHEAR coordinator)

Task 1280 **Enforce the use of hearing protection devices to both [redacted] and contract employees.**
This is Stated on page 27.5 of Section 20: Hearing Conservation Program Sub Section, Organizational Responsibilities, of Gulf Coast Region Loss Prevention Manual
PSM: Yes This applies to Individual Production Site.
This will generally be performed by: Production foreman, well operations foreman, project leader, construction foreman, field production supervisor, shore base coordinator

Task 1273 **Ensure proper initial fitting of Hearing Protection Devices.**
This is Stated on page 27.5 of Section 20: Hearing Conservation Program Sub Section, Organizational Responsibilities, of Gulf Coast Region Loss Prevention Manual
PSM: Yes This applies to Individual Production Site.
This will generally be performed by: Production foreman, construction foreman, well operations supervisor, MSL supervisor (will be assisted by SHEAR coordinator)

Task 1272 **Ensure that employees are trained as required in Hearing Conservation**
This is Stated on page 27.5 of Section 20: Hearing Conservation Program Sub Section, Organizational Responsibilities, of Gulf Coast Region Loss Prevention Manual
PSM: Yes This applies to Individual Production Site.
This will generally be performed by: Production foreman, construction foreman, well operations supervisor, MSL supervisor (will be assisted by SHEAR coordinator)

Task 1281 **Ensure the Hearing Protective Devices are worn.**
This is Stated on page 27.5 of Section 20: Hearing Conservation Program Sub Section, Organizational Responsibilities, of Gulf Coast Region Loss Prevention Manual
PSM: Yes This applies to Individual Production Site.
This will generally be performed by: Production foreman, well operations foreman, project leader, construction foreman, field production supervisor, shore base coordinator

Task 1285 **Post a copy of the OSHA Occupational Noise Exposure Standard in the "workplace."**
This is Stated on page 27.5 of Section 20: Hearing Conservation Program Sub Section, Organizational Responsibilities, of Gulf Coast Region Loss Prevention Manual
PSM: Yes This applies to Individual Production Site.
This will generally be performed by: Production foreman, well operations foreman, project leader, construction foreman, field production supervisor, shore base coordinator

ByResponsibleParty 5/4/99 11:42:42 AM Job Position Responsibilities © 1998 Daniel Follette, Inc. SkillForgeTM Software Page 20 of 70

Figure 5: Job Work Analysis defines responsibilities by title, their source and applicability. Tasks are grouped by category and subcategory. Related information from the task capture screen can also be presented.

one of several features designed to maintain the confidentiality and integrity of testing.

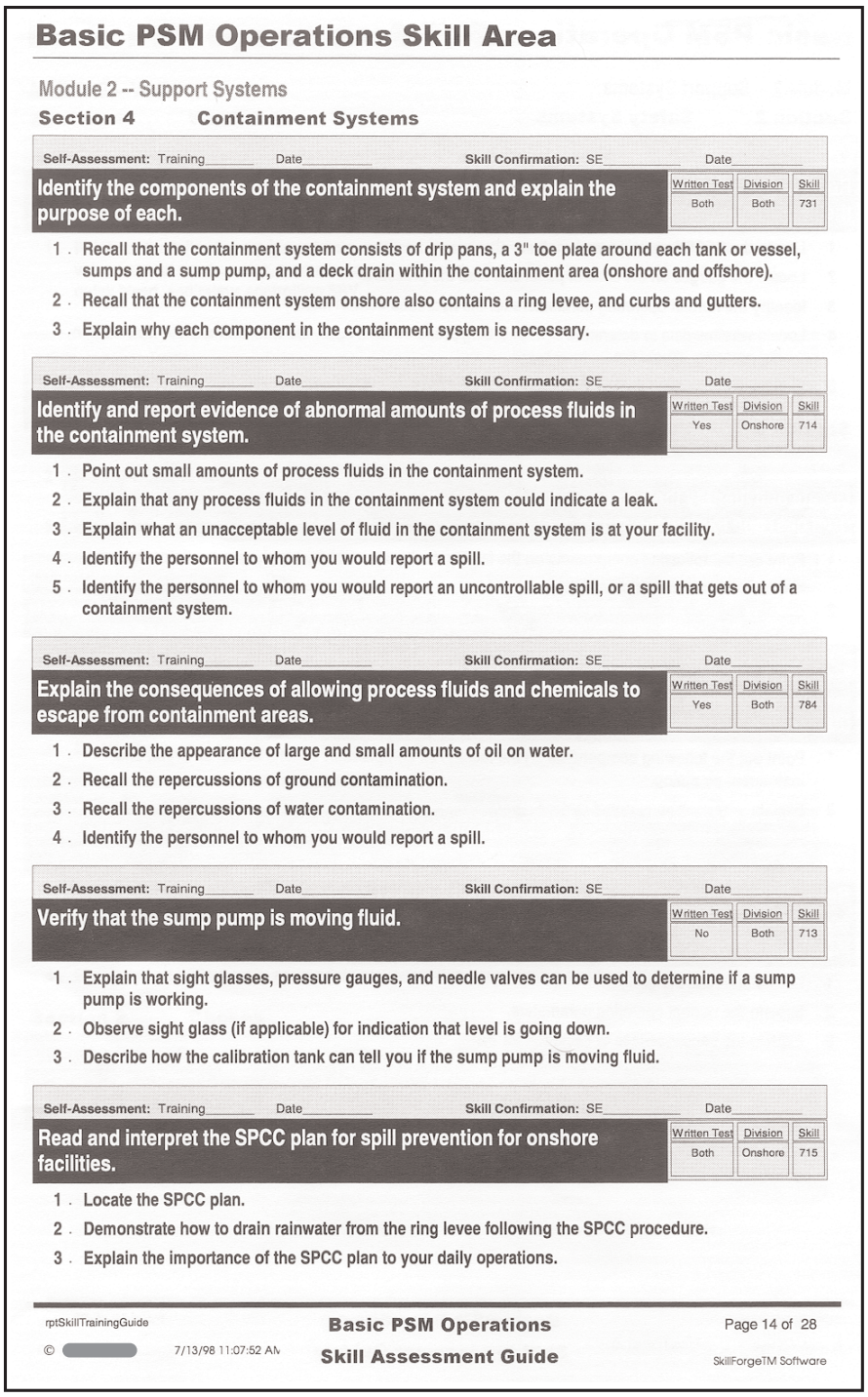
Other security features include test custody tracking information. Keys can be printed with a test or at a later date. A test can be exactly replicated and printed automatically. Screens permit at-terminal grading. The program can produce single tests or tests for all individuals at a given location. SkillForge can be configured to produce tests module-by-module or by skill area and level. Figure 10 shows the flow of testing information through the *Skill Analysis & Testing Module.*

Training development module reduces training development and delivery costs

SkillForge is designed to simultaneously reduce the cost of training development and delivery and provide more comprehensive, focused training. SkillForge uses several techniques to do this.

First, SkillForge takes advantage of precise skill definitions to focus training and eliminate unnecessary training.

Second, it integrates existing training materials rather than recreating them. By selecting existing components relevant to the skills being taught, and by delivering those components in the most efficient fashion, SkillForge reduces costs and eliminates needless recreation of training. In a similar way, training materials provided by third parties can be incorporated into the curriculum, in whole or in part.



Basic PSM Operations Skill Area

Module 2 -- Support Systems

Section 4 Containment Systems

Self-Assessment: Training_____ Date_____ Skill Confirmation: SE_____ Date_____

Identify the components of the containment system and explain the purpose of each.

Written Test	Division	Skill
Both	Both	731

1. Recall that the containment system consists of drip pans, a 3" toe plate around each tank or vessel, sumps and a sump pump, and a deck drain within the containment area (onshore and offshore).
2. Recall that the containment system onshore also contains a ring levee, and curbs and gutters.
3. Explain why each component in the containment system is necessary.

Self-Assessment: Training_____ Date_____ Skill Confirmation: SE_____ Date_____

Identify and report evidence of abnormal amounts of process fluids in the containment system.

Written Test	Division	Skill
Yes	Onshore	714

1. Point out small amounts of process fluids in the containment system.
2. Explain that any process fluids in the containment system could indicate a leak.
3. Explain what an unacceptable level of fluid in the containment system is at your facility.
4. Identify the personnel to whom you would report a spill.
5. Identify the personnel to whom you would report an uncontrollable spill, or a spill that gets out of a containment system.

Self-Assessment: Training_____ Date_____ Skill Confirmation: SE_____ Date_____

Explain the consequences of allowing process fluids and chemicals to escape from containment areas.

Written Test	Division	Skill
Yes	Both	784

1. Describe the appearance of large and small amounts of oil on water.
2. Recall the repercussions of ground contamination.
3. Recall the repercussions of water contamination.
4. Identify the personnel to whom you would report a spill.

Self-Assessment: Training_____ Date_____ Skill Confirmation: SE_____ Date_____

Verify that the sump pump is moving fluid.

Written Test	Division	Skill
No	Both	713

1. Explain that sight glasses, pressure gauges, and needle valves can be used to determine if a sump pump is working.
2. Observe sight glass (if applicable) for indication that level is going down.
3. Describe how the calibration tank can tell you if the sump pump is moving fluid.

Self-Assessment: Training_____ Date_____ Skill Confirmation: SE_____ Date_____

Read and interpret the SPCC plan for spill prevention for onshore facilities.

Written Test	Division	Skill
Both	Onshore	715

1. Locate the SPCC plan.
2. Demonstrate how to drain rainwater from the ring levee following the SPCC procedure.
3. Explain the importance of the SPCC plan to your daily operations.

Figure 6: Skill Qualification Guide with tracking fields presents skills and criteria and tracks training completion and skill verification.

Third, SkillForge lets companies use low-cost training resources. Most companies have many more training resources than they realize, once they look beyond formal training texts or courses. Some of the items companies have found useful include suppliers' sales literature and operations memos. Items such as these can be very instructive when tied to the appropriate skill and supported by clear instructions on how to apply the information.

Fourth, wherever possible, SkillForge provides the training in a self-study format. It also provides very specific, guided on-the-job training (OJT) exercises where they are needed. Each study activity or OJT exercise is focused on a specific skill and a specific outcome. This can greatly reduce the time spent on OJT and make the time spent much more productive. With SkillForge, no training is created without a clearly specified performance outcome. Training is quick and focused. Students know their goal and know when they have reached it.

Fifth, automated training module publication is a built-in feature. SkillForge directly outputs the training as booklets or electronic documents. With SkillForge, there is no word processing or page layout. Figures 15 and 16 are pages from typical training modules.

Developing the most efficient training

Figure 11 is a schematic of principal inputs and outputs of the *Training Development Module*. The SkillForge system provides a way to efficiently identify and analyze all relevant training resources.

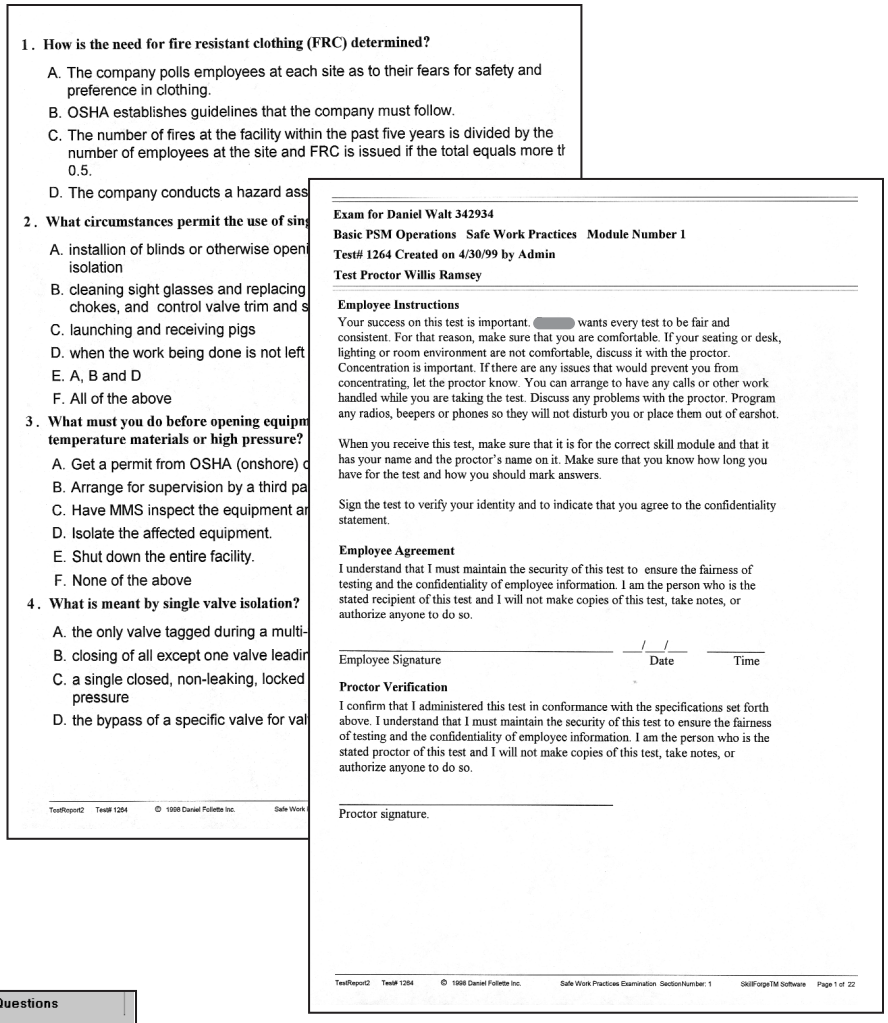
First, all resources that might be relevant are cataloged and linked to all relevant skill areas. Employees are often able to identify the pri-

mary resources and many unexpected ones as well. Subject experts and developers can provide information about additional third-party resources. Figure 12 is an input screen for training resources.

Training resource assessment reports

Subject matter experts can review and assess training resources using SkillForge reports. Subject matter experts select the specific parts of each useful resource that best teach each skill. SkillForge enables developers to link the relevant paragraphs and sentences to eliminate unnecessary study.

SkillForge reports help identify the most useful resources and eliminate redundant ones. Figure 13 shows sections of two reports used to analyze training resources. One shows the resources linked to each skill. The other shows the skills linked to each resource. Subject matter experts can see what resources have the broadest application and focus on using them. They can also eliminate redundant resources. This kind of analysis



1. How is the need for fire resistant clothing (FRC) determined?
   - A. The company polls employees at each site as to their fears for safety and preference in clothing.
   - B. OSHA establishes guidelines that the company must follow.
   - C. The number of fires at the facility within the past five years is divided by the number of employees at the site and FRC is issued if the total equals more th 0.5.
   - D. The company conducts a hazard ass
2. What circumstances permit the use of sing
   - A. installion of blinds or otherwise openi isolation
   - B. cleaning sight glasses and replacing chokes, and control valve trim and s
   - C. launching and receiving pigs
   - D. when the work being done is not left
   - E. A, B and D
   - F. All of the above
3. What must you do before opening equipm temperature materials or high pressure?
   - A. Get a permit from OSHA (onshore) c
   - B. Arrange for supervision by a third pa
   - C. Have MMS inspect the equipment ar
   - D. Isolate the affected equipment.
   - E. Shut down the entire facility.
   - F. None of the above
4. What is meant by single valve isolation?
   - A. the only valve tagged during a multi-
   - B. closing of all except one valve leadir
   - C. a single closed, non-leaking, locked pressure
   - D. the bypass of a specific valve for val

TestReport2 Test# 1264 © 1998 Daniel Follette Inc. Safe Work

Exam for Daniel Walt 342934
Basic PSM Operations Safe Work Practices Module Number 1
Test# 1264 Created on 4/30/99 by Admin
Test Proctor Willis Ramsey

Employee Instructions

Your success on this test is important. [redacted] wants every test to be fair and consistent. For that reason, make sure that you are comfortable. If your seating or desk, lighting or room environment are not comfortable, discuss it with the proctor. Concentration is important. If there are any issues that would prevent you from concentrating, let the proctor know. You can arrange to have any calls or other work handled while you are taking the test. Discuss any problems with the proctor. Program any radios, beepers or phones so they will not disturb you or place them out of earshot.

When you receive this test, make sure that it is for the correct skill module and that it has your name and the proctor's name on it. Make sure that you know how long you have for the test and how you should mark answers.

Sign the test to verify your identity and to indicate that you agree to the confidentiality statement.

Employee Agreement

I understand that I must maintain the security of this test to ensure the fairness of testing and the confidentiality of employee information. I am the person who is the stated recipient of this test and I will not make copies of this test, take notes, or authorize anyone to do so.

Employee Signature ___/___/___ Date Time

Proctor Verification

I confirm that I administered this test in conformance with the specifications set forth above. I understand that I must maintain the security of this test to ensure the fairness of testing and the confidentiality of employee information. I am the person who is the stated proctor of this test and I will not make copies of this test, take notes, or authorize anyone to do so.

Proctor signature.

TestReport2 Test# 1264 © 1998 Daniel Follette Inc. Safe Work Practices Examination SectionNumber: 1 SkillForgeTM Software Page 1 of 22

Figure 8: First and second pages of a typical test show test instructions and easy-to-read format.

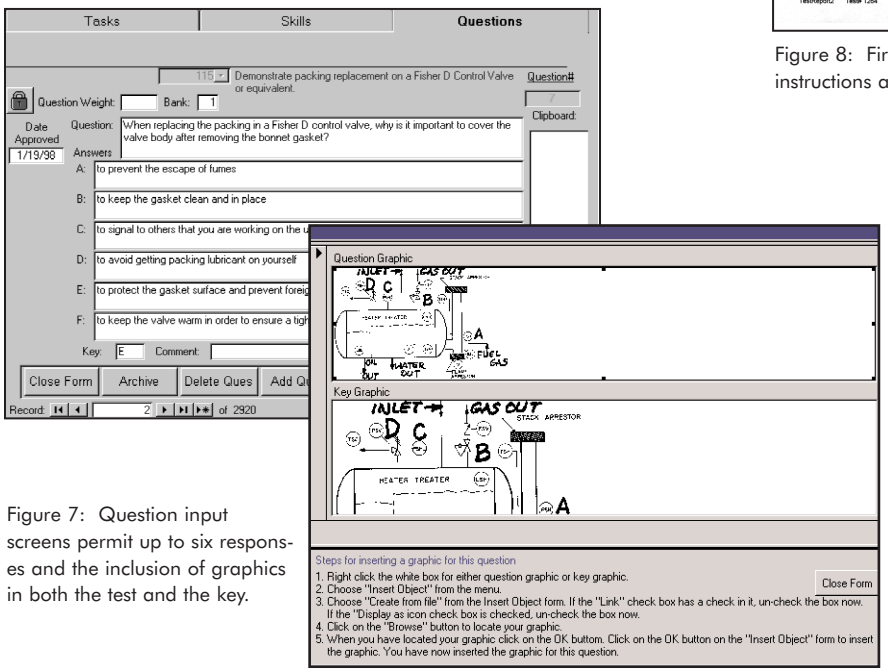


Figure 7: Question input screens permit up to six responses and the inclusion of graphics in both the test and the key.

enabled one client to reduce the number of training resources inventoried by two-thirds.

Training Modules

To create training modules, developers define the module and section titles and group the corresponding skills into them. Training instructions—both self-study and OJT—are then added to the skill information. Figure 14 shows the input screen and

Safe Work Practices Exam for Daniel Walt 342934

Test 1264 Created on 4/30/99 by Admin

Test issued by Willis Ramsey

You answered all the questions correctly for the following skills

Skill#	Module#	Name	Skill
642	1	Safe Work Practices	Employee Responsibilities in the Hazard Communication Program
645	1	Safe Work Practices	Lockout/Tagout Hardware
647	1	Safe Work Practices	PPE - Clothing and Protective Equipment for Head, Eyes, Hands a

You missed one or more questions testing your understanding of the following skills

Skill#	Module#	Name	Skill
640	1	Safe Work Practices	Isolation Definitions
641	1	Safe Work Practices	Isolation Policy and Procedures
643	1	Safe Work Practices	Lockout/Tagout Definitions
644	1	Safe Work Practices	Lockout/Tagout Procedures
646	1	Safe Work Practices	PPE - Employee Responsibilities and Hazard Assessments
796	1	Safe Work Practices	Hearing Conservation

Test Summary

Skill	# of Questions	Correct	Incorrect
PPE - Clothing and Protective Equipment for Head, Eyes, Hands and Body	15	15	0
Lockout/Tagout Hardware	6	6	0
Employee Responsibilities in the Hazard Communication Program	8	8	0
Hearing Conservation	13	12	1
PPE - Employee Responsibilities and Hazard Assessments	3	2	1
Lockout/Tagout Procedures	7	6	1
Isolation Definitions	9	8	1
Lockout/Tagout Definitions	12	10	2
Isolation Policy and Procedures	11	9	2
	84	76	8

Percent Correct 90.47

Figure 9: Examination results report provides complete results. The report guides self study by identifying skills for which questions were incorrectly answered.

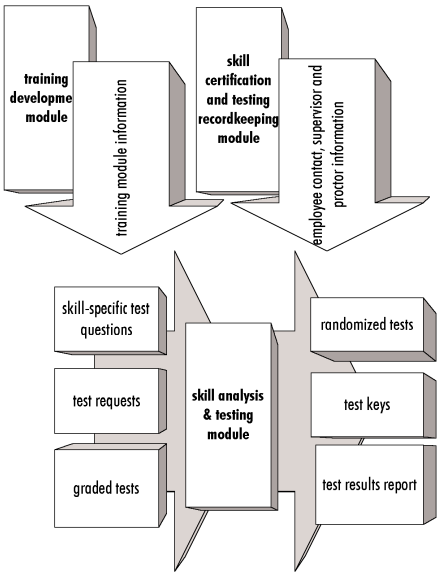


Figure 10: Flow of testing information through the Skill Analysis & Testing Module

tabs for module definition. SkillForge automatically outputs comprehensive training modules. In one engagement this automation enabled a client to produce 740 different training titles in a three-month period.

Figure 15 and Figure 16 are two pages from representative *Skill Training Modules*. Each training activity restates the skill objective and criteria. Next it lists any training resources that are used. (When the modules are produced as on-line electronic documents, these listings serve as *Hypertext Links* to the actual resource.) After general instructions, the module presents step-by-step training instructions. At the end of each activity,

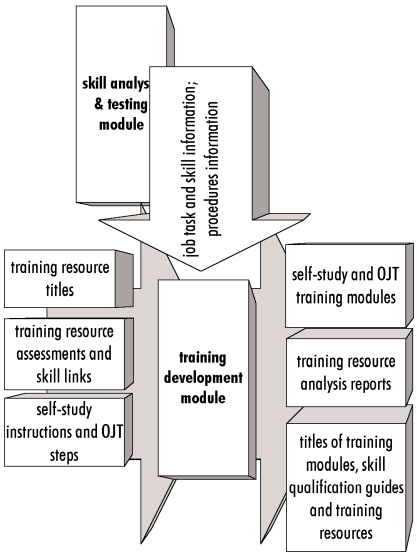


Figure 11: Schematic of principle inputs and outputs of the Training Development Module

questions enable the student to test his or her understanding. Training activities can incorporate both *self-study* and *OJT exercises*.

The training library module reduces training development and delivery costs

When modules are defined, the system logs all titles into the *Training Library Management Module*. Figure 17 shows the input/output structure for the module. The module manages the company's inventory of skill qualification guides, training modules and training resources. It records entries into and shipments from inventory. SkillForge reports when items fall below preset inventory levels and it automatically produces purchase requests.

When a request for training is received, SkillForge pulls employee contact information from the *Skills Certification and Training Records Module*, records the request and produces shipping labels and pull lists. When an item is out of stock, SkillForge creates a backorder

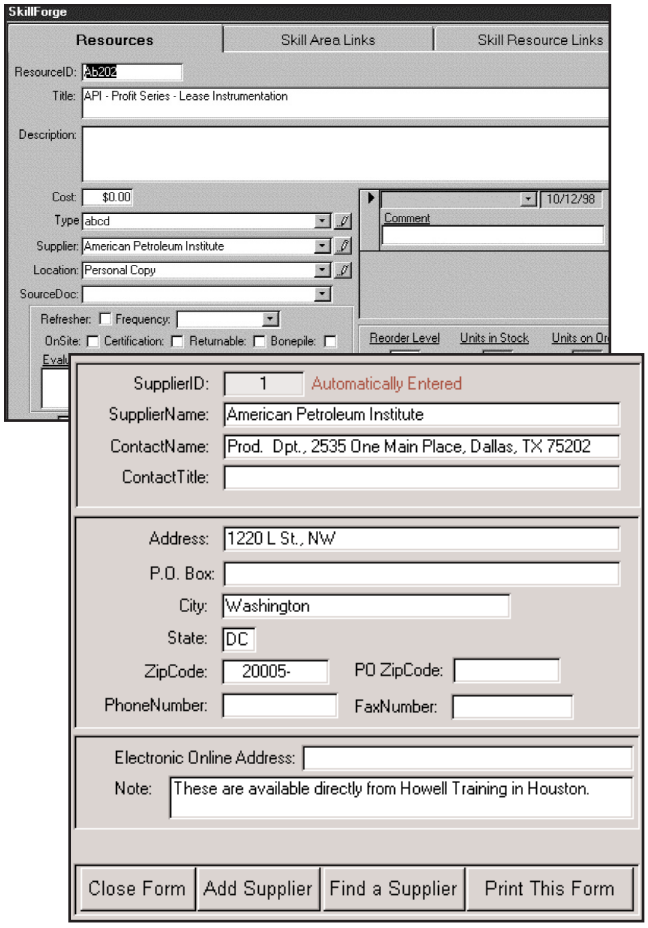


Figure 12: Training resource input screen and supplier/order information popup provides complete order and inventory information.

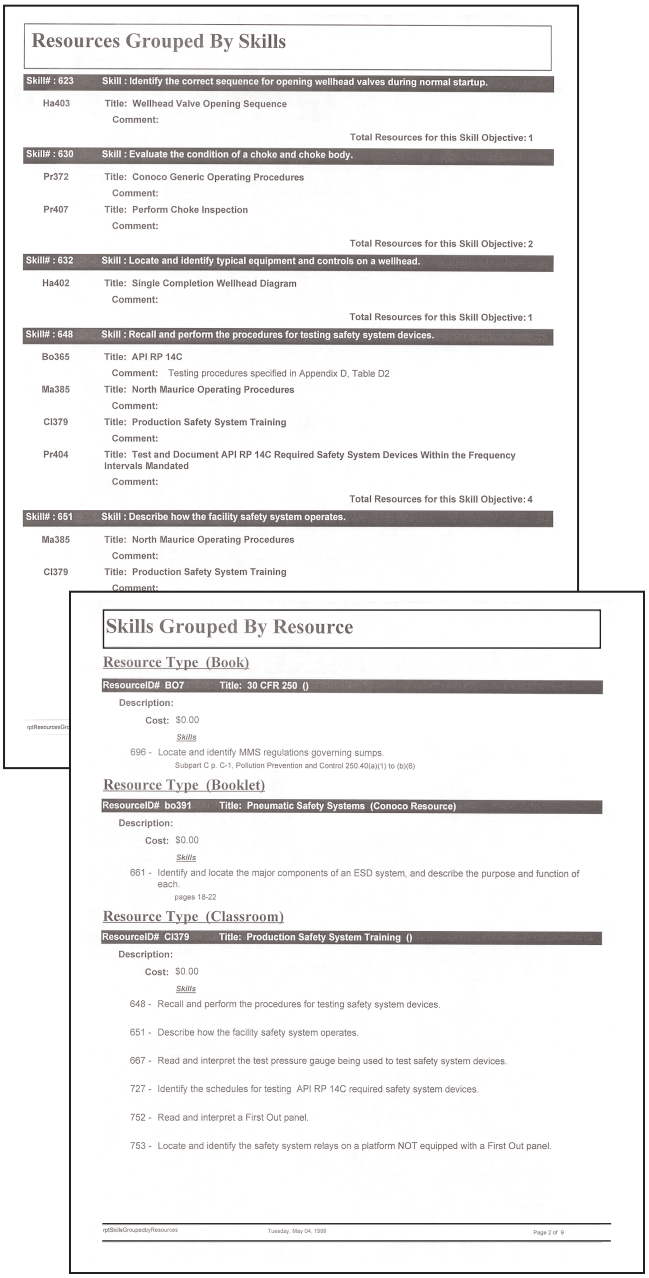


Figure 13: Two reports permit developers to select the most effective training resources. One report identifies all the skills covered by each resource. A second report groups all resources under the skills they teach. For example, C1379 would be a good candidate because it covers a number of skills. If classroom attendance was not an option, then the second report could be used to identify alternatives for each skill.

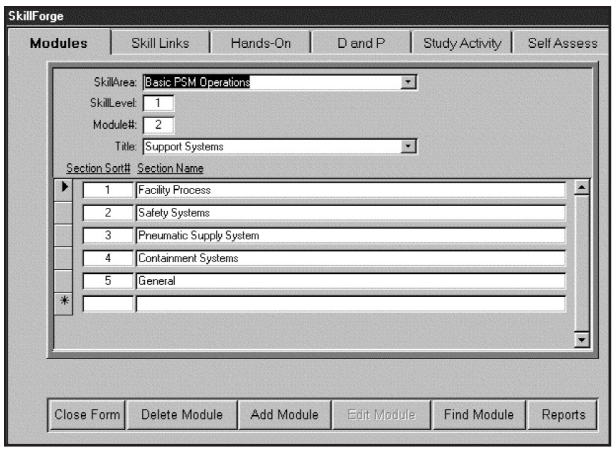
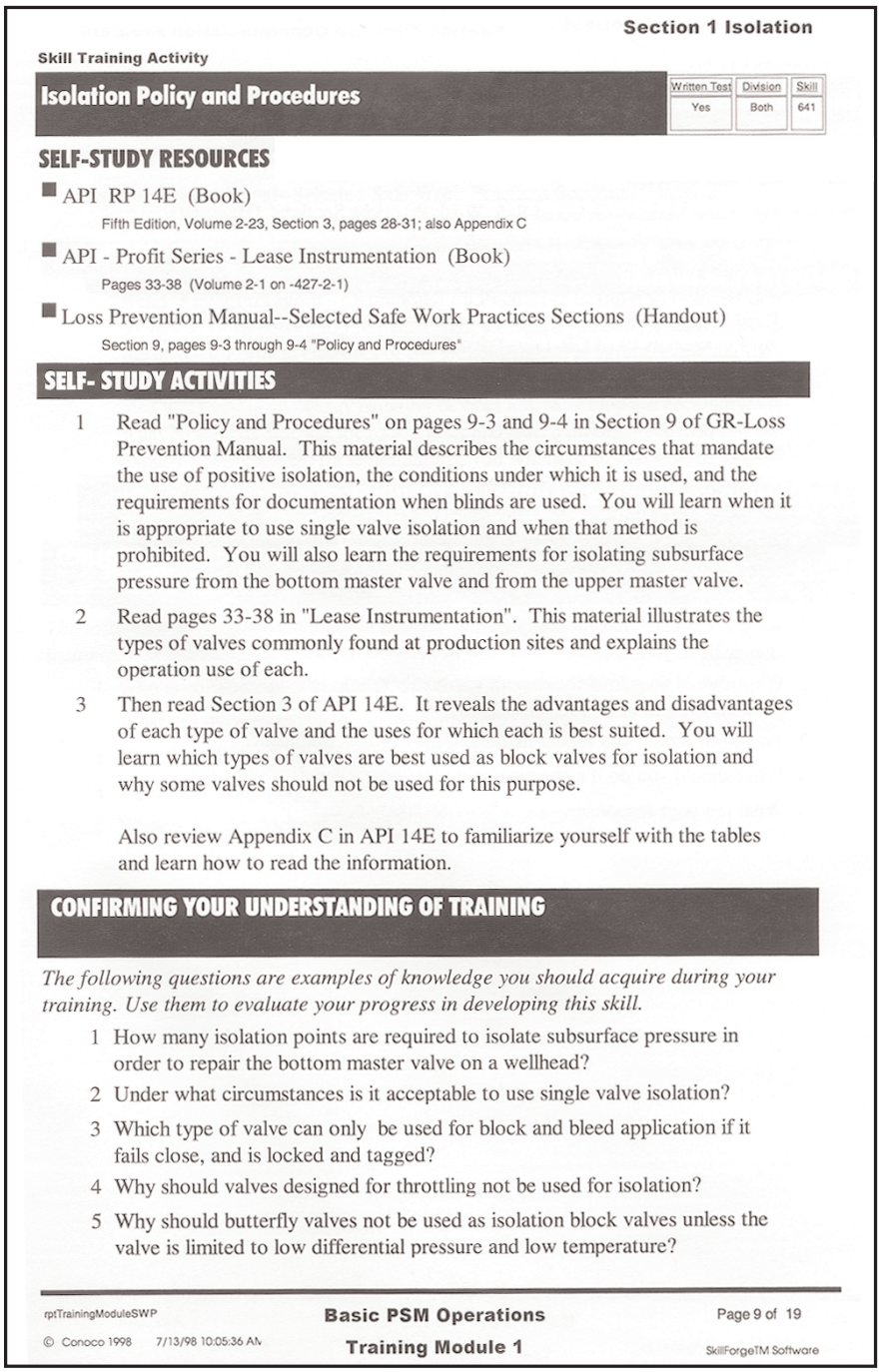


Figure 14: Module development screens first define modules and sections. For selected module, screens then link in skills, resources, demonstration and performance activities, training instructions and self assessment questions. Definition process is guided from left to right by tabs.



Section 1 Isolation

Skill Training Activity

Isolation Policy and Procedures

Written Test	Division	Skill
Yes	Both	641

SELF-STUDY RESOURCES

- API RP 14E (Book)
  Fifth Edition, Volume 2-23, Section 3, pages 28-31; also Appendix C
- API - Profit Series - Lease Instrumentation (Book)
  Pages 33-38 (Volume 2-1 on -427-2-1)
- Loss Prevention Manual--Selected Safe Work Practices Sections (Handout)
  Section 9, pages 9-3 through 9-4 "Policy and Procedures"

SELF- STUDY ACTIVITIES

1 Read "Policy and Procedures" on pages 9-3 and 9-4 in Section 9 of GR-Loss Prevention Manual. This material describes the circumstances that mandate the use of positive isolation, the conditions under which it is used, and the requirements for documentation when blinds are used. You will learn when it is appropriate to use single valve isolation and when that method is prohibited. You will also learn the requirements for isolating subsurface pressure from the bottom master valve and from the upper master valve.

2 Read pages 33-38 in "Lease Instrumentation". This material illustrates the types of valves commonly found at production sites and explains the operation use of each.

3 Then read Section 3 of API 14E. It reveals the advantages and disadvantages of each type of valve and the uses for which each is best suited. You will learn which types of valves are best used as block valves for isolation and why some valves should not be used for this purpose.

Also review Appendix C in API 14E to familiarize yourself with the tables and learn how to read the information.

CONFIRMING YOUR UNDERSTANDING OF TRAINING

The following questions are examples of knowledge you should acquire during your training. Use them to evaluate your progress in developing this skill.

1 How many isolation points are required to isolate subsurface pressure in order to repair the bottom master valve on a wellhead?

2 Under what circumstances is it acceptable to use single valve isolation?

3 Which type of valve can only be used for block and bleed application if it fails close, and is locked and tagged?

4 Why should valves designed for throttling not be used for isolation?

5 Why should butterfly valves not be used as isolation block valves unless the valve is limited to low differential pressure and low temperature?

rptTrainingModuleSWP Basic PSM Operations Page 9 of 19

© Conoco 1998 7/13/98 10:05:36 AM Training Module 1 SkillForge™ Software

Figure 15: Page from representative Skill Training Module shows how skill, study resources, self-study instructions and self-assessment questions are linked to produce training curriculum.

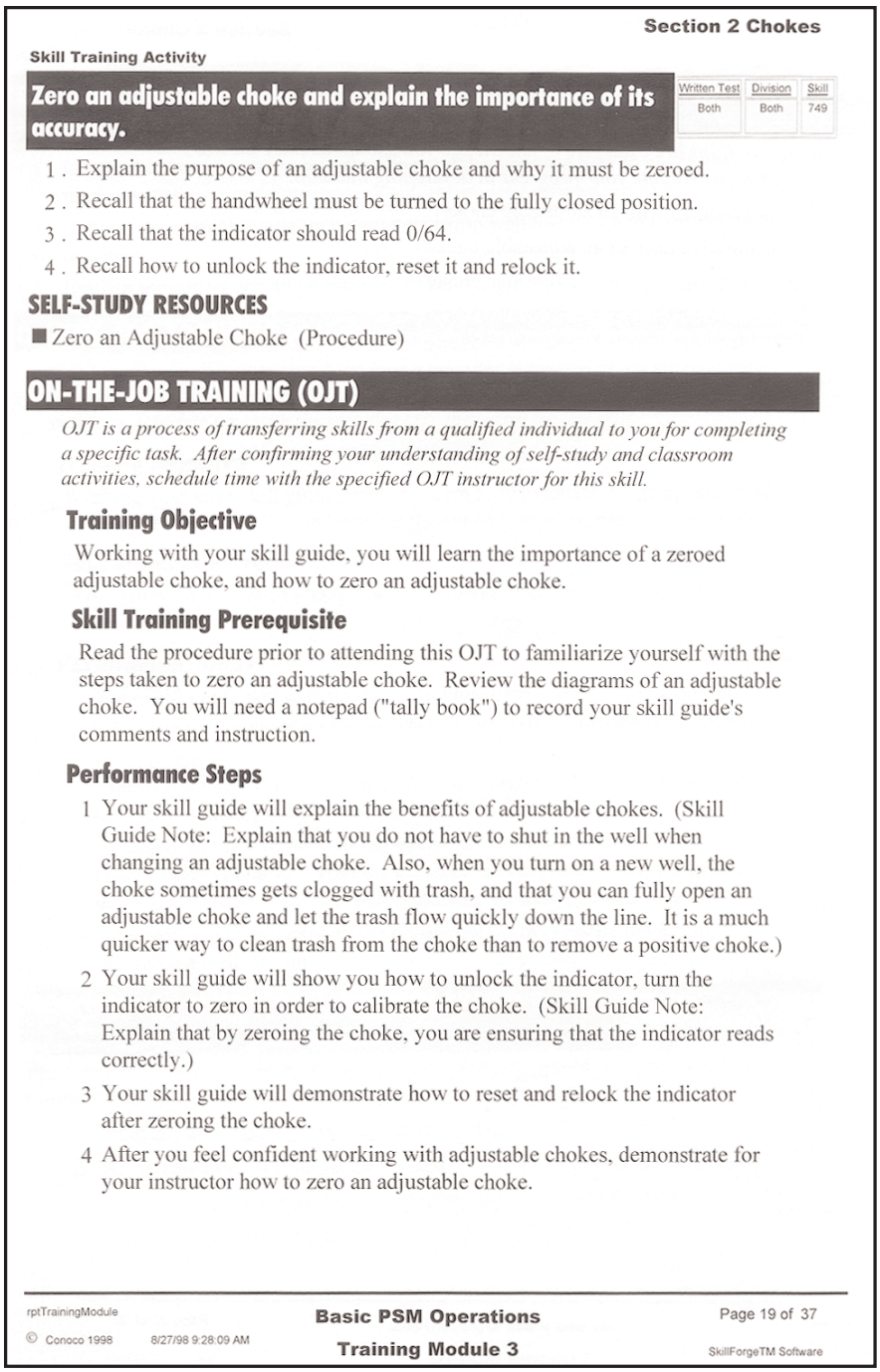
for the student's request.

The automation features of the SkillForge *Training Library Management Module* reduce the cost of managing a training inventory.

The skills certification and training records module simplifies record keeping and tracks advancement

The *Skills Certification and Testing Module* holds complete employee contact information (Figure 18). Certifiers are able to enter certification and testing completions on a module-by-module basis. The program can also be set up to record training completions. In most cases though, basing competence on skill verification rather than training completion greatly reduces the training load. The level at which certification and testing are tracked is completely customizable. Employee status can be viewed on screen or in reports (see Figure 19).

The module's functions can also be expanded to allow employee critiques of both training and certification. (see Figure 20). It also permits graphic modeling of an employee's job progression, with a tabular display (Figure 21) and in a block diagram (Figure 22). Figure 23 shows the module's overall work flow.



Section 2 Chokes

Skill Training Activity

Zero an adjustable choke and explain the importance of its accuracy.

Written Test	Division	Skill
Both	Both	749

1. Explain the purpose of an adjustable choke and why it must be zeroed.
2. Recall that the handwheel must be turned to the fully closed position.
3. Recall that the indicator should read 0/64.
4. Recall how to unlock the indicator, reset it and relock it.

SELF-STUDY RESOURCES

■ Zero an Adjustable Choke (Procedure)

ON-THE-JOB TRAINING (OJT)

OJT is a process of transferring skills from a qualified individual to you for completing a specific task. After confirming your understanding of self-study and classroom activities, schedule time with the specified OJT instructor for this skill.

Training Objective

Working with your skill guide, you will learn the importance of a zeroed adjustable choke, and how to zero an adjustable choke.

Skill Training Prerequisite

Read the procedure prior to attending this OJT to familiarize yourself with the steps taken to zero an adjustable choke. Review the diagrams of an adjustable choke. You will need a notepad ("tally book") to record your skill guide's comments and instruction.

Performance Steps

1 Your skill guide will explain the benefits of adjustable chokes. (Skill Guide Note: Explain that you do not have to shut in the well when changing an adjustable choke. Also, when you turn on a new well, the choke sometimes gets clogged with trash, and that you can fully open an adjustable choke and let the trash flow quickly down the line. It is a much quicker way to clean trash from the choke than to remove a positive choke.)

2 Your skill guide will show you how to unlock the indicator, turn the indicator to zero in order to calibrate the choke. (Skill Guide Note: Explain that by zeroing the choke, you are ensuring that the indicator reads correctly.)

3 Your skill guide will demonstrate how to reset and relock the indicator after zeroing the choke.

4 After you feel confident working with adjustable chokes, demonstrate for your instructor how to zero an adjustable choke.

Figure 16: Page from Skill Training Manual shows use of demonstration and performance activities to specify on-the-job training.

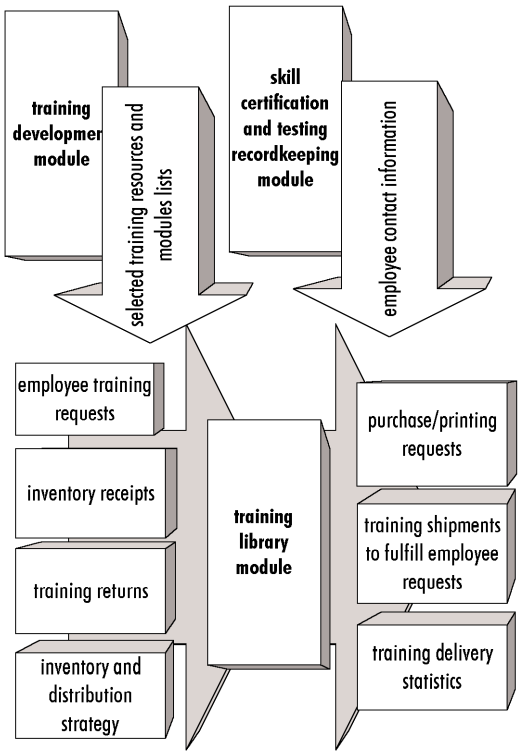


Figure 17: Input/Output structure for Training Library Module

The training course management module defines courses, schedules sections and manages enrollment and completion

A fifth SkillForge module, the *Training Course Management Module,* is described in separate literature. It is a comprehensive training facility management package.

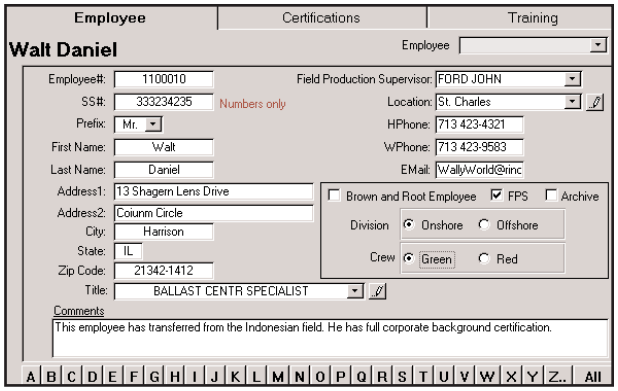


Figure 18: Employee identification screen, certification and training tabs in the Skills Certification and Testing Records Module.

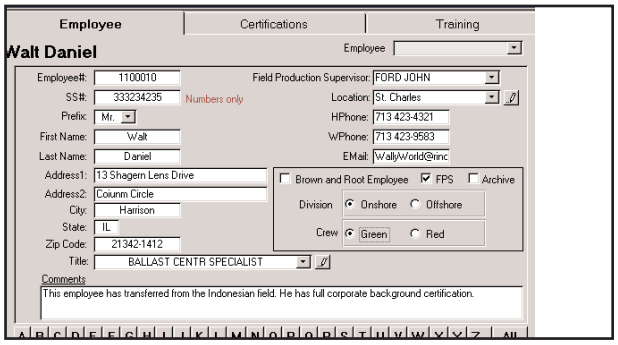


Figure 19: Employee status screens and reports

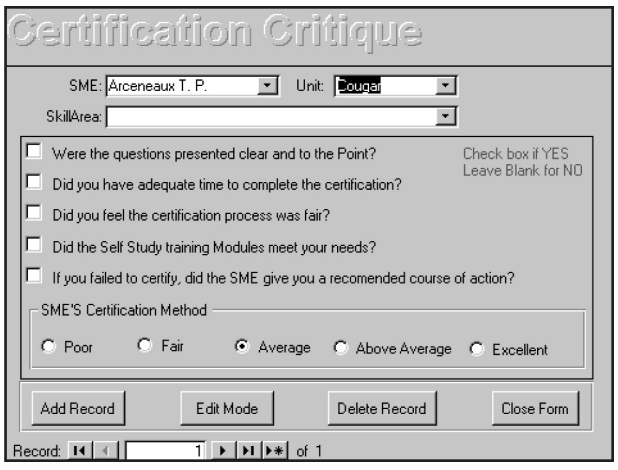


Figure 20: SkillForge can be configured to permit employees to enter confidential feedback about certifications and training.

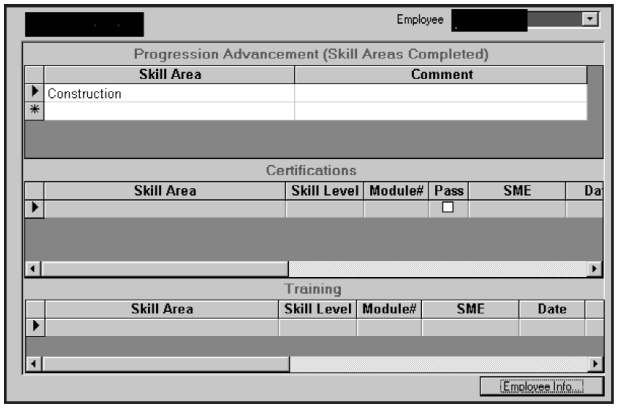


Figure 21: SkillForge provides tabular display of employee job progression, skill certifications and training or testing completions.

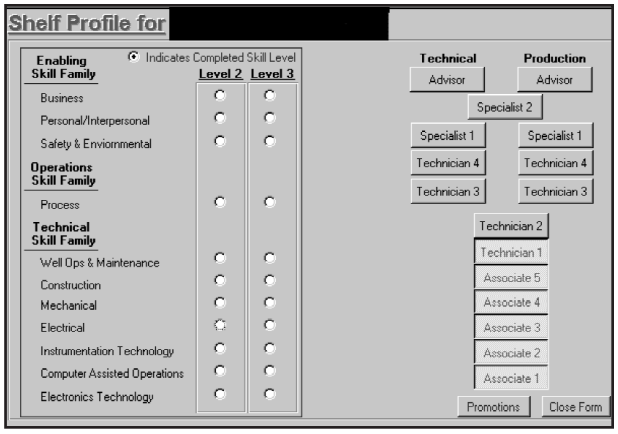


Figure 22: SkillForge can be configured to provide graphic display of employee skill certifications and job progression.

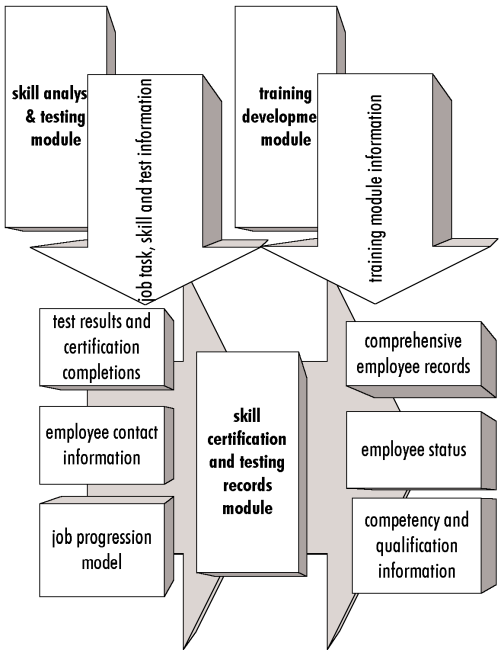


Figure 23: Schematic of the overall work flow in the Skill Certification and Testing Records Module.

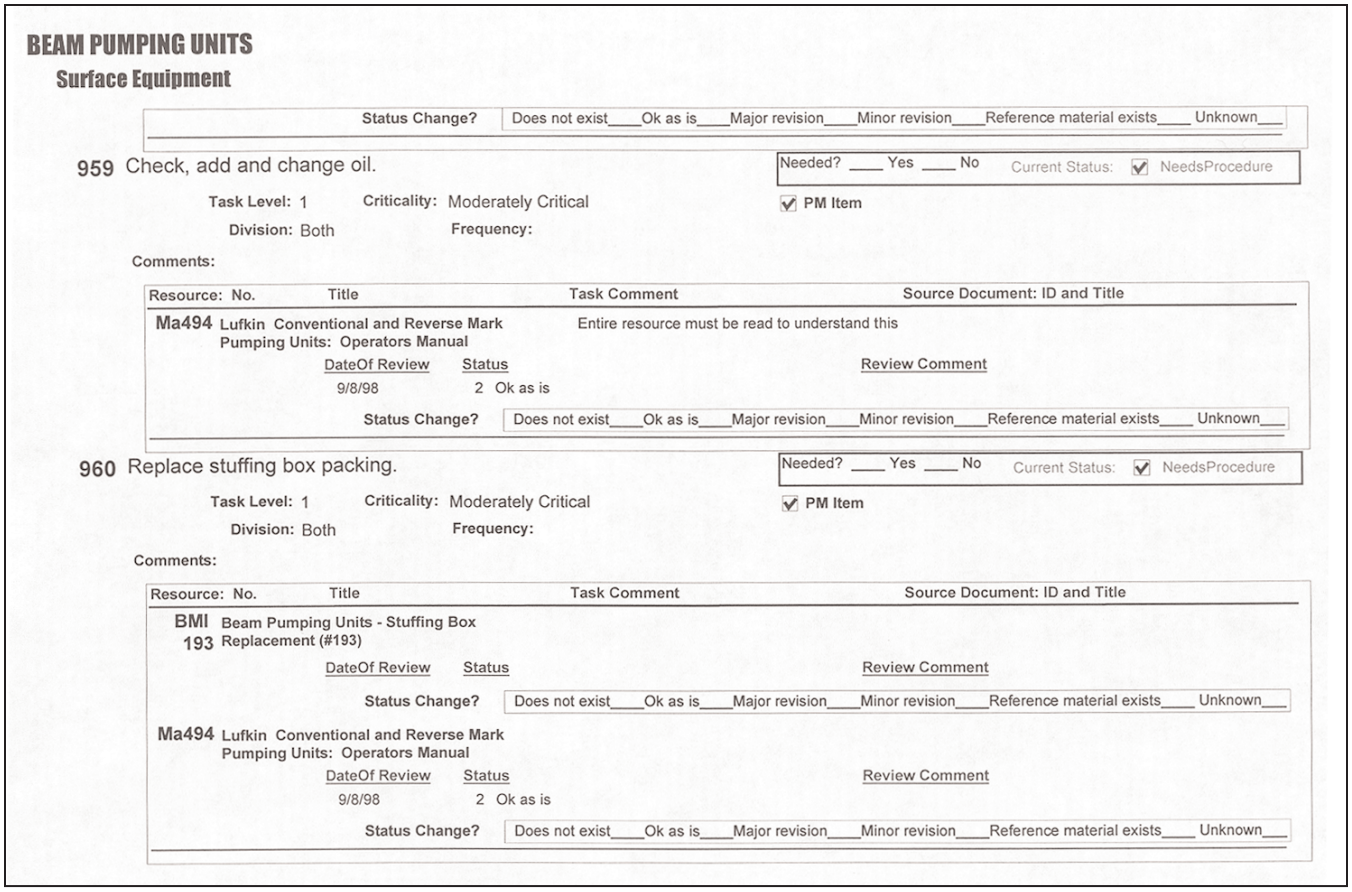


Figure 24: Task reports can identify the need for procedures, as well as the status of any linked procedures or resources.

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