



# PUGET SOUND ENERGY

Puget Sound Energy, Inc.  
P.O. Box 90868  
Bellevue, WA 98009-0868

Alan  
Sandra  
Records-015

RECEIVED  
RECORDS MANAGEMENT  
06 JAN 25 AM 8:41  
STATE OF WASH.  
UTIL. AND TRANSP.  
COMMISSION

January 24, 2006

Carole J. Washburn, Secretary  
Washington Utilities and Transportation Commission  
P.O. Box 47250  
Olympia, WA 98504-7250

Attn: Alan Rathbun, Pipeline Safety Director

**Subject: Docket PG-030080 and PG-030128 Puget Sound Energy Settlement Agreement – Isolated Facilities Program 2006 Report**

Dear Mr. Rathbun,

This letter serves as transmittal of the 2006 status report on the Isolated Facilities Program which was implemented by Puget Sound Energy (PSE) in accordance with the King/Pierce County Settlement Agreement (referred to hereafter as the "Settlement Agreement").

As part of the Settlement Agreement, PSE and the WUTC agreed that PSE would develop and implement an Isolated Facilities Program to identify all isolated steel facilities and ensure that test sites exist or are established as required to verify adequate cathodic protection (CP). The program will also include processes to ensure that test sites are established as required for any new or newly isolated facilities.

On June 30, 2005, PSE briefed WUTC Pipeline Safety Staff on the program development and progress to date. At that time, we also received input from Staff on our approach and methodology. Based on this input, we have focused on continuing to develop the many processes required to implement the program to ensure accurate results are obtained in the most efficient manner. We have placed the highest priority on piloting and refining the riser process, because risers are the most labor-intensive facilities to identify and their proximity to structures increases their priority for remediation.

The time spent piloting this extremely complex and detailed process was very valuable. We have confirmed that this process is effective and learned many

RMS  
M

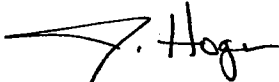
critical lessons that will help to ensure program success as we move into full-scale implementation. In addition, the pilot program allowed us to obtain necessary information on the productivity rates for each step of the process. As a result, we are assessing the long term staffing options for the whole program, with consideration to the impacts to other ongoing compliance commitments, contractor workforce options, and existing labor agreements. We will brief you further on these issues when we meet to discuss this report.

Attached to this letter is the Isolated Facilities 2006 Report which contains a detailed explanation of each of the processes, the results of the pilot activities from 2005, and a summary of the timeline for identifying and remediating each type of isolated facility.

Due to the complexity of each process, as well as the staffing and training requirements associated with each element, we plan to continue to use a phased approach to implementing the program. This phased approach is prudent to ensure that each process has adequate technical oversight to verify process accuracy, to provide continuous process improvement, and to ensure quality assurance of training and performance for each element of the program. As mentioned above, our primary focus during the life of the program will be on risers, which make up the vast majority of facilities that will be reviewed.

PSE is committed to continuing to develop and implement the Isolated Facilities Program in a timely and accurate manner and appreciates any input Staff has on the program. PSE and Staff have a meeting scheduled on January 26, 2006 to review this report. If Staff has any questions prior to this meeting, please call me at (425) 462-3957.

Sincerely,



Jim Hogan  
Manager, Standards & Compliance

Attachment:

Cc: Sue McLain  
Booga Gilbertson  
Duane Henderson  
Kimberly Harris  
Karl Karzmar

# Isolated Facilities Program 2006 Report

Puget Sound Energy  
January 24, 2006

## Appendices:

- A: Service Riser Process (4 pages)
- B: Stub Process
- C: Mains Process
- D: Casing Process (2 pages)
- E: Extended Utility Facility Process
- F: Sample Letter – Extended Utility Facility Notification (2 pages)
- G: Sample Letter – Customer Owned Piping Notification (2 pages)
- H: New Isolated Facilities Process
- I: Program Schedule

## Isolated Facilities 2006 Report

This Isolated Facilities Program Report includes a summary of activities completed in 2005 as well as plans for continuing to implement and complete the program. This report is provided in accordance with the King/Pierce County Settlement Agreement (Settlement Agreement.)

As part of the Settlement Agreement, Puget Sound Energy (PSE) and the WUTC agreed that PSE would develop and implement the Isolated Facilities Program. The objective of the program is to identify steel facilities that require cathodic protection (CP) and verify that maintenance records are updated to ensure that these facilities are monitored routinely to verify adequate CP. In addition, this program will include developing and implementing processes for ensuring new isolated steel facilities requiring CP are identified and maintained.

This report includes a summary of the processes, the results of the pilot activities from 2005, and the timeline for identifying and remediating each type of isolated facility. There are four main categories of isolated facilities, which include services, mains, casings and extended utility facilities (EUF.) For services there are two subcategories, risers and stubs.

### Services

#### Risers

PSE has put the highest priority on developing and piloting the service riser processes as these are the most labor intensive facilities to identify. More than 700,000 risers will be inspected as part of this program. PSE developed, piloted, and refined the riser processes during 2005. These processes are included as Appendix A and are also summarized below.

#### Process:

The riser inspection process begins with creating a master list of metered and unmetered services. The metered services are identified from PSE's current customer information system, CLX. The unmetered services will be identified using data from CLX, as well as the legacy customer information system that was used prior to implementation of CLX.

Based on the meter lists compiled from the customer information system, field personnel inspect each riser to identify whether or not there is an aboveground

polyethylene (PE) to steel transition. This information is recorded in a database and then the data is sorted to determine what follow-up action is required. For those services that are identified to have a PE to steel transition, the riser review is complete.

For those services without a PE to steel transition, company records are then reviewed to determine the service and main material. The data from this review is then sorted and follow-up action is determined.

For steel services off of cathodically protected mains, PSE will assess whether a process is required to confirm no changes in either the main or the service have occurred since the Critical Bond Program was applied to that facility. If no changes have occurred since Critical Bond or if Critical Bond has not been completed on the system, no additional action is required, as these services have or will be inspected as part of the Critical Bond Program. In addition, bare steel services require no further action as they will be replaced as part of the Bare Steel Replacement Program. Similarly, steel wrapped services off of cast iron mains will be remediated as part of the Cast Iron Replacement Program.

All remaining sites (other combinations of service and main material) are then reviewed to determine if there is an existing CP test site in SAP. If there is an existing test site, it is recorded in the Isolated Facilities database and the work is complete. If there is not an existing test site, the location must be inspected again to confirm whether or not this is an isolated facility. If it is confirmed to be an isolated facility, a pipe to soil potential (PSP) read will be taken, low reads will be remediated, and new test sites will be created in SAP as necessary. If it is determined not to be an isolated facility, the results of the second inspection will be recorded and remediation performed if necessary (i.e. if the initial inspection indicated there was no PE to steel transition fitting but it was found to be buried, the buried transition fitting would require remediation.)

#### 2005 Pilot:

PSE focused its efforts in 2005 on developing all the processes and piloting the riser inspection process. In 2005, PSE inspected over 108,000 risers. More than 77,000 of these were PE risers. The 31,000 risers without PE to steel transitions identified were queued for further records review. The records review was completed for more than 13,800 of these services. Of these, approximately 3,600 were determined to be steel wrapped services off of cathodically protected mains that are evaluated to confirm adequate test sites as part of the Critical Bond Program. In addition, approximately 70 services were determined to be bare steel and will be replaced as part of the Bare Steel Replacement Program and approximately 40 steel services were steel services off of cast iron mains that will be replaced or remediated as part of the Cast Iron Replacement Program.

There were approximately 490 steel services off of PE mains that were reviewed to determine if there was an existing test site. A sample of those without test sites was then inspected again. Of those that were inspected a second time, 170 were determined to be PE risers and 79 were isolated facilities. Of those, 68 had good PSP reads and only required a test site be added to ensure the facility will continue to be monitored to verify adequate CP and 11 locations had low PSP reads. All 11 of these locations will be remediated.

### Stubs

#### Process:

The stub identification process is included as Appendix B and is summarized below. This process begins with a map review to identify steel stubs off of PE, wrought iron, or bare steel mains. Any candidate isolated facilities are then reviewed to determine if there is an existing test site in SAP. If there is an existing test site, the information is recorded in the Isolated Facilities database and the work is complete. If there is not an existing test site, a test site shall either be created or the facility will be replaced or retired.

#### 2005 Pilot:

PSE began a Wrapped Steel Service Assessment Program (WSSAP) in 2005 to assess the condition of selected wrapped steel services. As part of this program, maps are being reviewed to identify wrapped steel services and stubs that meet specified criteria. While this is a separate program, the Isolated Facilities team has been working with this team to evaluate the process for identifying steel stubs. The process has resulted in identification of 1,300 stubs, which have been recorded in a database. The Isolated Facilities Program will continue the map review and add additional stubs to this database. This data will then be sorted to determine which stubs require additional review to determine whether a test site needs to be created. For steel stubs off of cathodically protected mains, no additional action is required as these services were inspected as part of Critical Bond. Steel stubs that also had a steel riser will be addressed as part of the riser process. The remainder of the steel stubs will be inspected using the stub process.

## **Mains**

In 2005, PSE completed a project to create overlays on its maps to identify the boundaries of CP systems. These overlays indicate the systems that are included within the Critical Bond Program. Any CP steel wrapped main that is not part of Critical Bond will be reviewed as part of Isolated Facilities.

As this requires a review of all maps, PSE has decided to use this opportunity to ensure that all steel main is either included in the Bare Steel Replacement Program, Critical Bond, or Isolated Facilities Program. The Isolated Facilities process for mains, which is contained in Appendix C and summarized below, reflects PSE's plan to perform this thorough evaluation.

### **Process:**

This process begins by creating overlays of bare steel systems that will be replaced as part of the Bare Steel Replacement Program. Once these overlays are complete, the maps will be reviewed to identify any steel main that is not part of the Bare Steel Replacement Program or the Critical Bond Program.

After sections of main are identified that are not part of the Critical Bond or Bare Steel Replacement Programs, they will then be reviewed to determine if they are bare or wrapped steel. Any bare pipe will be added to the Bare Steel Replacement Program. All steel wrapped pipe will then be reviewed to determine if it is cathodically protected. If there is no CP, a determination will be made based on the pipe condition whether to CP, replace, or retire the section of main. If the main is CP, a review will be performed to ensure there are adequate test sites and test sites will be added as necessary.

### **2005 Pilot:**

In 2005, PSE completed the project to create overlays on its maps to identify the boundaries of CP systems. PSE has also begun identifying how bare steel systems that will be replaced as part of the Bare Steel Replacement Program will be overlaid on the maps. Once these overlays are complete the map review will begin, candidate mains will be identified, and the main process will be implemented.

## Casings

### Process:

All locations where steel has been installed in casings must be identified to ensure there are adequate test sites to verify the carrier is, and remains, electrically isolated from the casing. This process is included as Appendix D and begins by identifying locations where casings are likely to be installed such as railroad, bridge, and highway crossings. A review of PSE maps and bridge patrol records is then performed to document locations where cathodically protected steel main crosses these types of locations.

SAP is then reviewed to determine which of these locations have existing test sites. If there is an existing test site, this is recorded in the Isolated Facilities database and the work is complete. If there is not an existing test site, the next steps are determined based on whether the casing is on a bridge. If the casing is on a bridge, an assessment must be performed to determine whether the casing extends into the soil. If it does not extend into the soil, no test site is required and the records are updated to reflect this conclusion. If it extends into the soil, a field check must be performed.

If the casing is not on a bridge and it is on the plat map, the Critical Bond Program will ensure adequate test sites are established at this location. If it is not on the plat map, the job folder shall be reviewed to determine if a casing was installed. If it is clear from the job folder that no casing was installed, this shall be documented and the research is complete. If the job folder indicates that a casing was installed or if it is unclear from the job folder whether or not a casing was installed, a field check must be performed.

The field check looks for existing test leads, vents, or other indicators of a casing. If there are adequate test sites found from the field check, test sites shall be added to SAP for monitoring. If not, and it is unclear whether a casing was installed, a confirmation dig must be performed to determine if there is a casing. Any locations with casing shall have test sites installed and added to SAP for monitoring. If the tests indicate the casing is shorted or other remediation is required, the situation will be remediated.

### 2005 Pilot:

An initial plat review had previously been conducted and resulted in identifying almost 500 potential casing locations. Prior to beginning the inspection of these facilities, PSE assessed the accuracy of the assumptions of this initial plat review. This assessment focused on evaluating whether plats alone were adequate to use to identify locations where casings are likely to be installed, such as railroad, bridge and highway crossings. This assessment concluded that there were additional resources that are required to ensure these locations were accurately identified. These additional resources include



PSE's bridge crossing patrol list as well as regional railroad and highway data. PSE has begun incorporating these resources into the casing review process to ensure the identification of possible casing locations is as accurate and comprehensive as possible.

## **EUFs**

### **Process:**

The EUF process is included as Appendix E and begins when a candidate EUF is identified during the riser inspection. In addition to identifying whether there is a PE to steel transition at the riser, the riser inspection includes identifying any locations where there is buried piping downstream of the meter. For all locations where there is buried piping downstream of the meter, the plat and D-4 are checked for any indication of an EUF. If there is no indication of an EUF, the facility is determined to be customer-owned fuel line and a letter is sent to the customer to remind them of their responsibility to maintain this piping. If there is an indication of an EUF, a second inspection is performed to determine if any of the EUF is steel and whether additional test sites are required.

### **2005 Pilot:**

In 2005, PSE inspected over 108,000 risers and found that 3,631 had buried piping downstream of the meter. PSE performed the maps and records review for 1,025 of those locations and determined that 85 of them were EUFs and the remainder of them were customer buried piping.

PSE has developed a letter with input from many departments to use to communicate with customers once the buried piping is determined to be an EUF or customer owned fuel line. Appendix F and G contain sample copies of the letters that will be used to communicate to customers with EUFs and customer owned buried fuel line, respectively.

## **Process for New and Newly Isolated Facilities**

The process for new isolated facilities is included in Appendix H. This process requires that a test site be created in SAP for any new steel facility while it is in the design phase. The test site number is then recorded on the design drawings and the specific location of the test site is recorded when construction is performed. The specific location information is updated in SAP when the as-installed records are received. Engineering

is then notified that the work has been completed and they create a maintenance plan in SAP to ensure the facility is monitored as required. The discrepancy reports, created as part of the SAP enhancements and implemented in 2005, will then be used to identify any test sites that remain in design status for a long period of time. These are then further reviewed to determine if a maintenance plan needs to be activated.

## **Conclusions and Program Plans**

The time spent piloting these extremely complex and detailed processes was very valuable. PSE confirmed that the processes are effective and learned many valuable lessons that will be used to ensure that the program will be successful as we move to full scale implementation. These lessons include the realization that data management is critical, as the sheer numbers of locations that are being inspected require a robust system to manage the data. In addition, the maps and records review is labor intensive and time consuming. As a result, it is necessary for personnel conducting the riser inspections to be extremely well trained to recognize PE to steel transitions in order to eliminate unnecessary records research and follow-up inspections.

Appendix I is the schedule for moving forward and continuing to implement the multiple phases of the Isolated Facilities Program as well as the manpower estimates for each of the phases.

## Isolated Facilities - Riser Survey (Process overview)

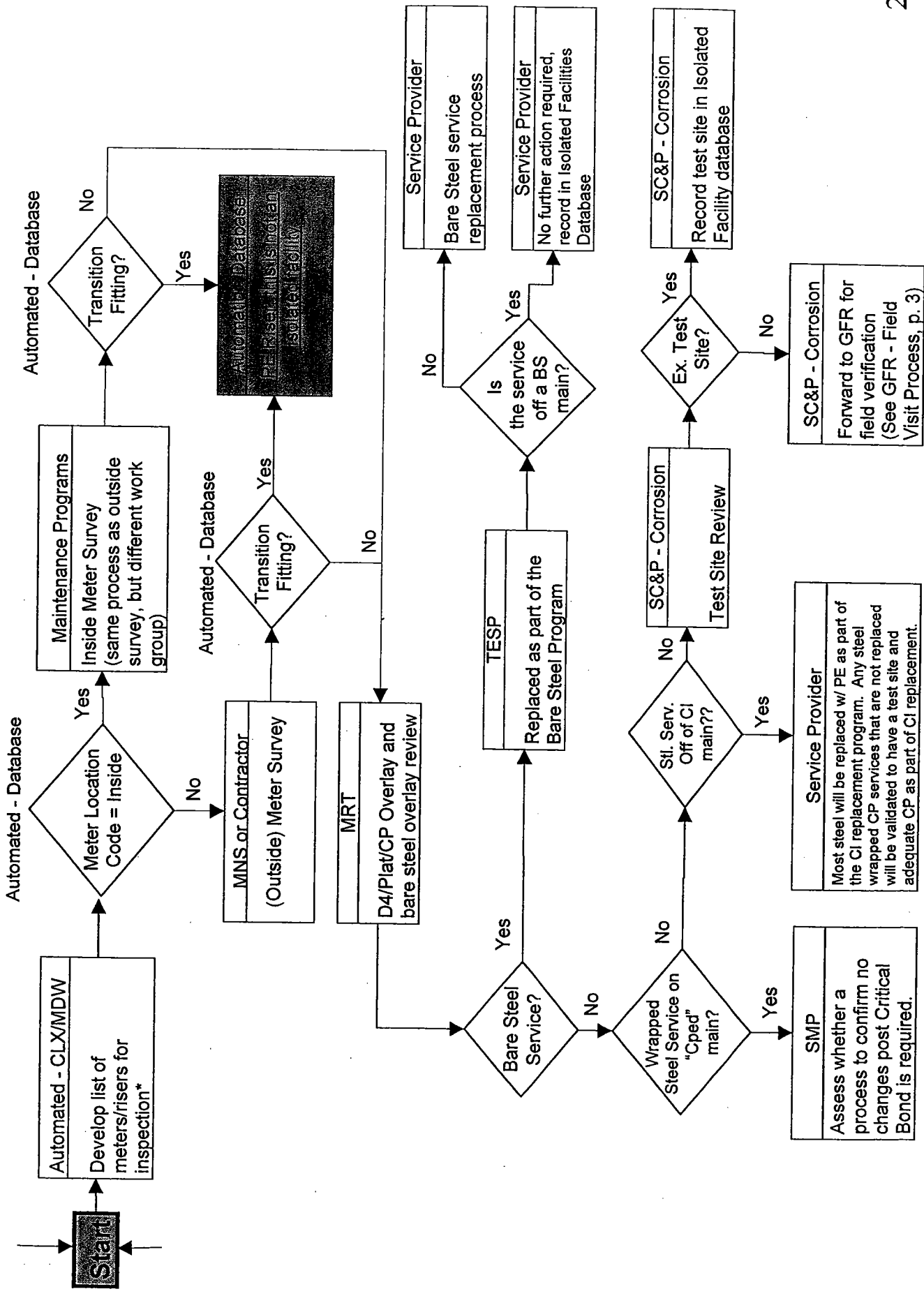
Page 2 - Overview of the process start, initial field inspection, maps and records review,  
and SC&P - Corrosion SAP test site review

Page 3 - GFR Field Visit (2nd visit)

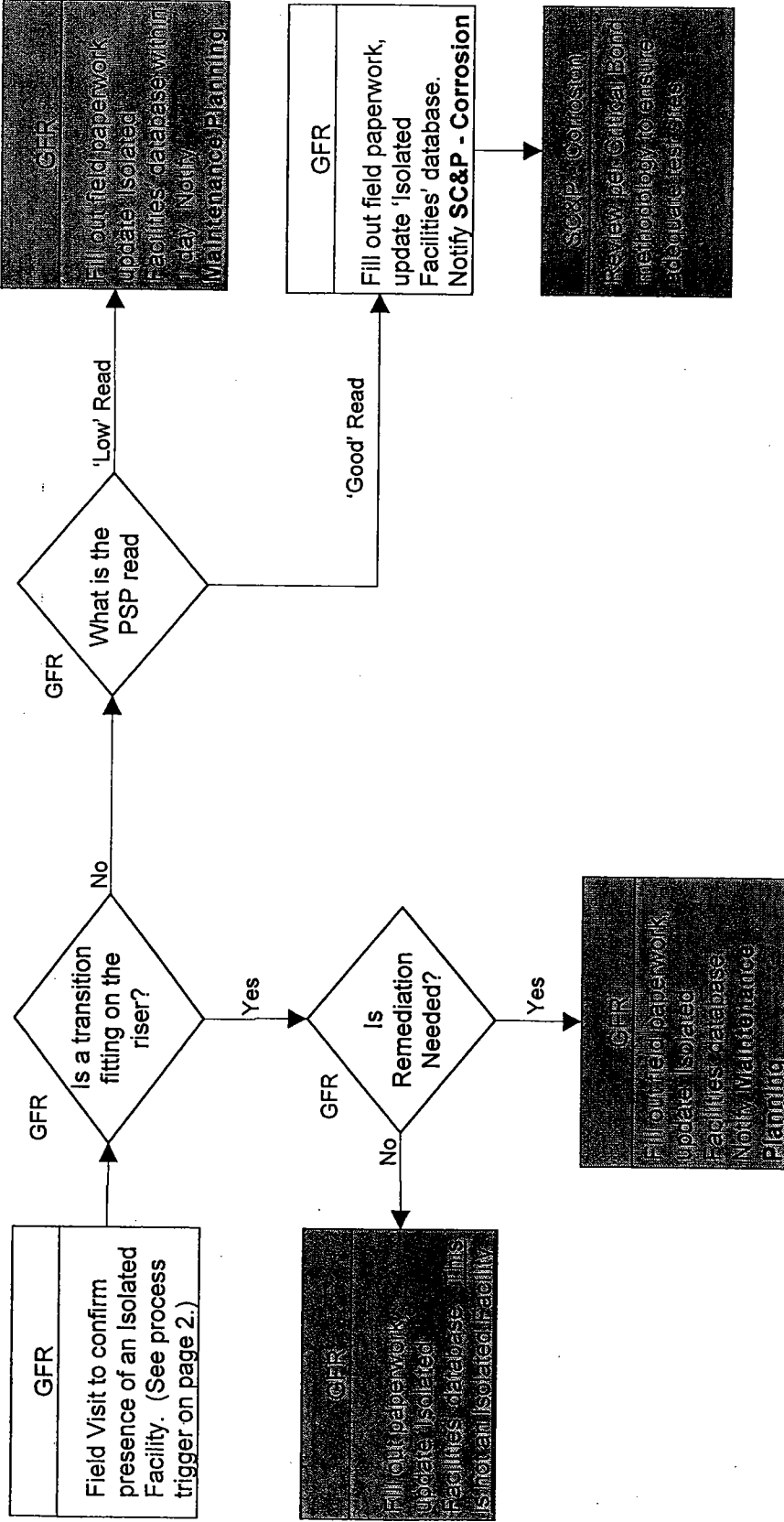
Page 4 - Remediation determination and execution

\* This includes both metered risers and risers without meters. Metered risers are currently being inspected. A team is in the process of developing a process for identifying risers without meters.

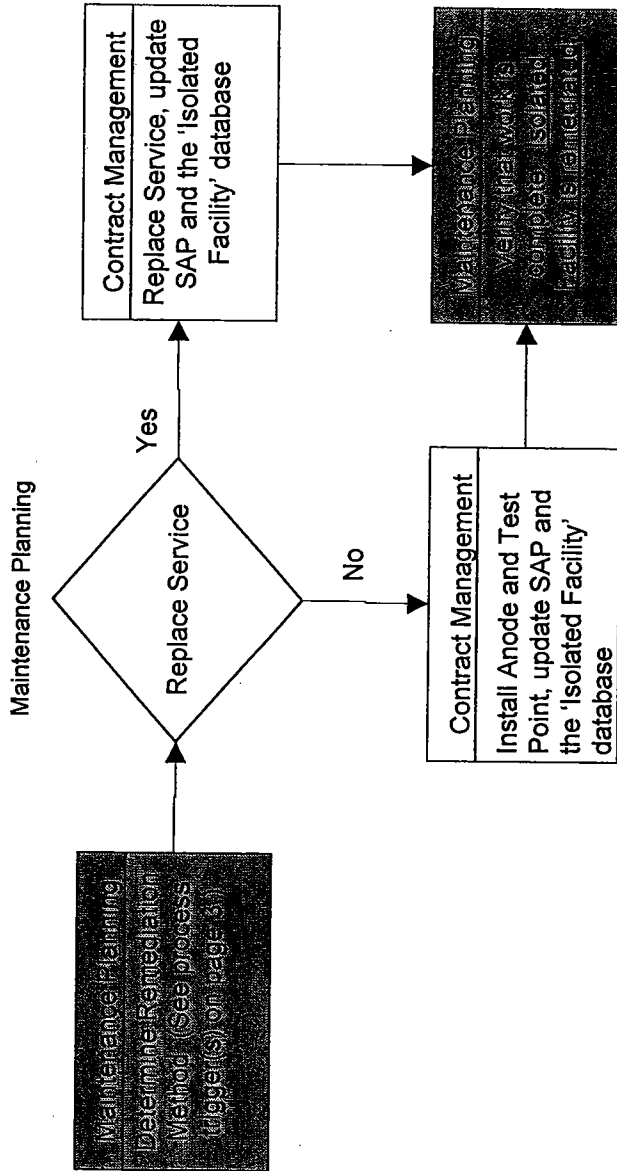
# Isolated Facilities - Riser Survey (Start - MNS/Contractor and MRT)



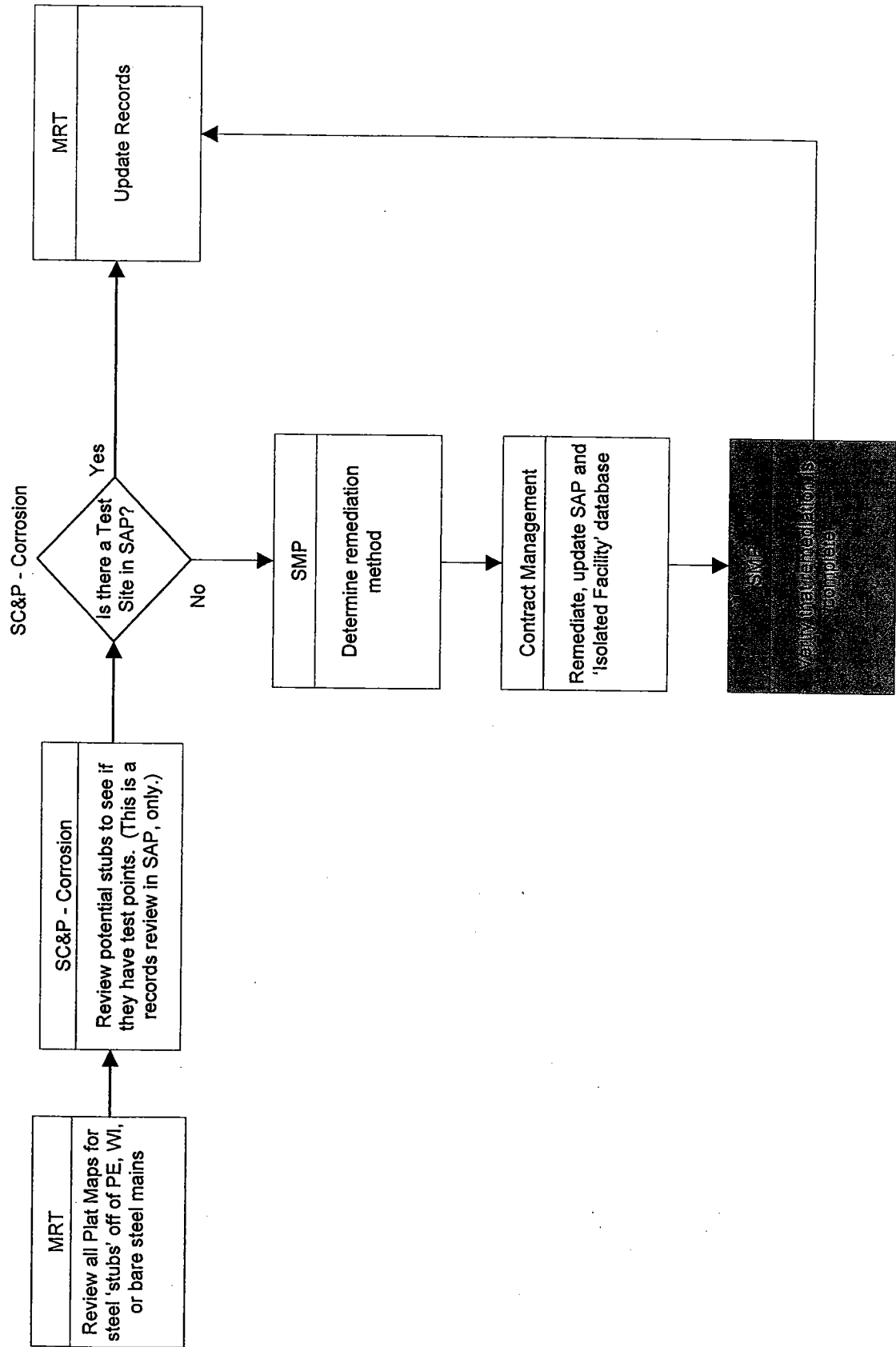
# Isolated Facilities - Riser Survey (GFR - Field Visit)



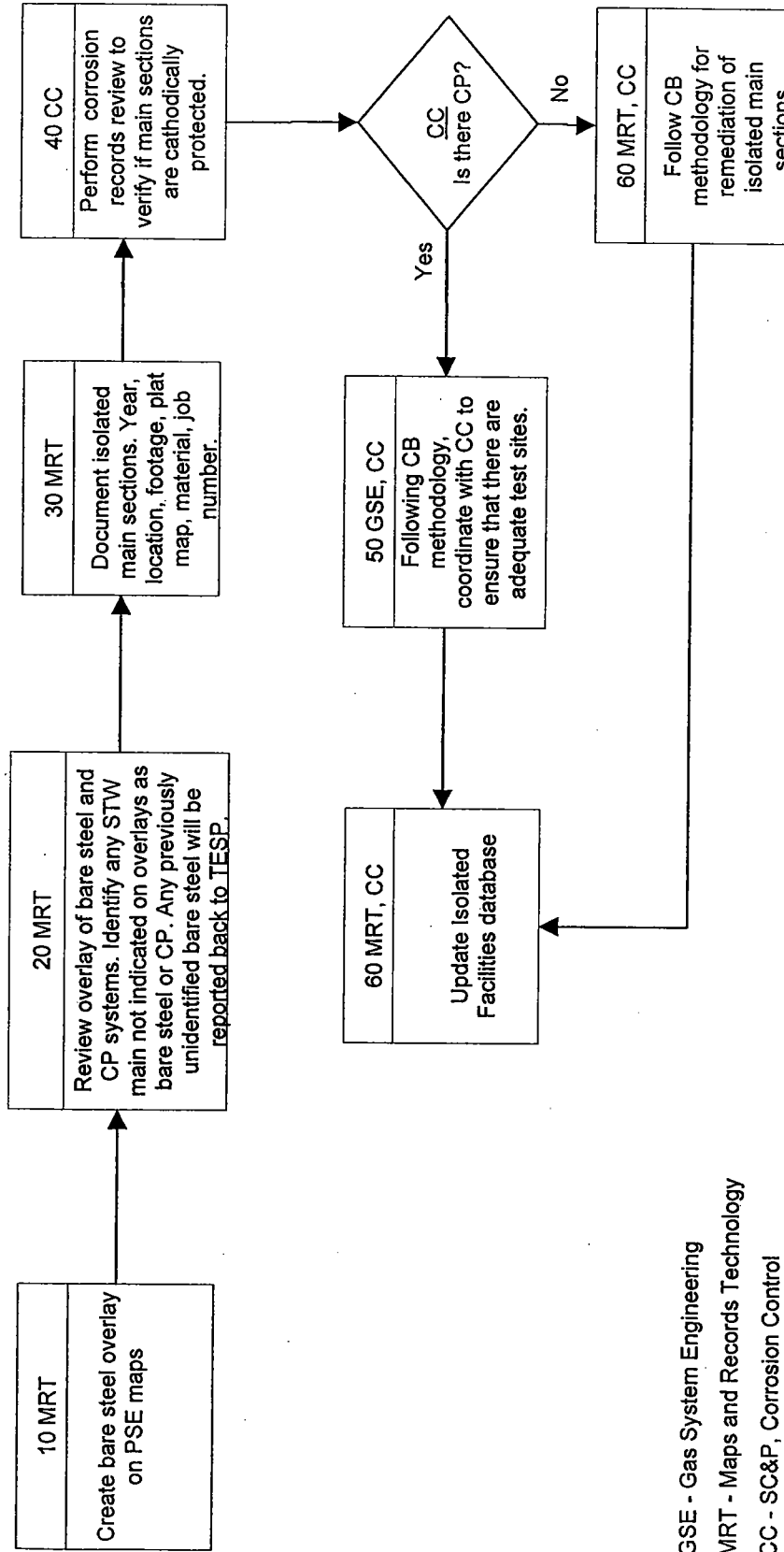
# Isolated Facilities - Riser Survey (Maintenance Planning Process)



**Isolated Facilities - Stub Identification**



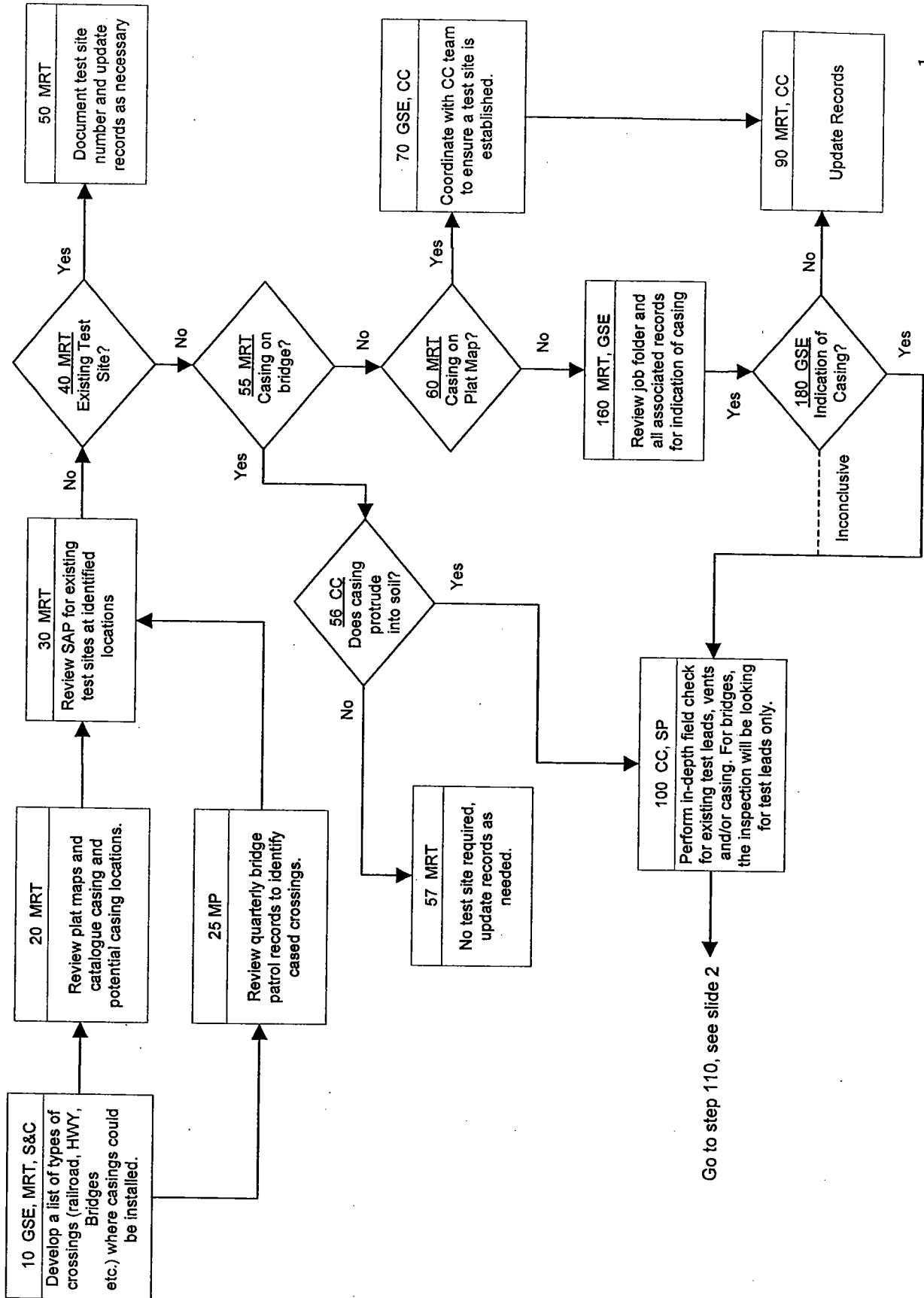
## Isolated Facilities - Mains



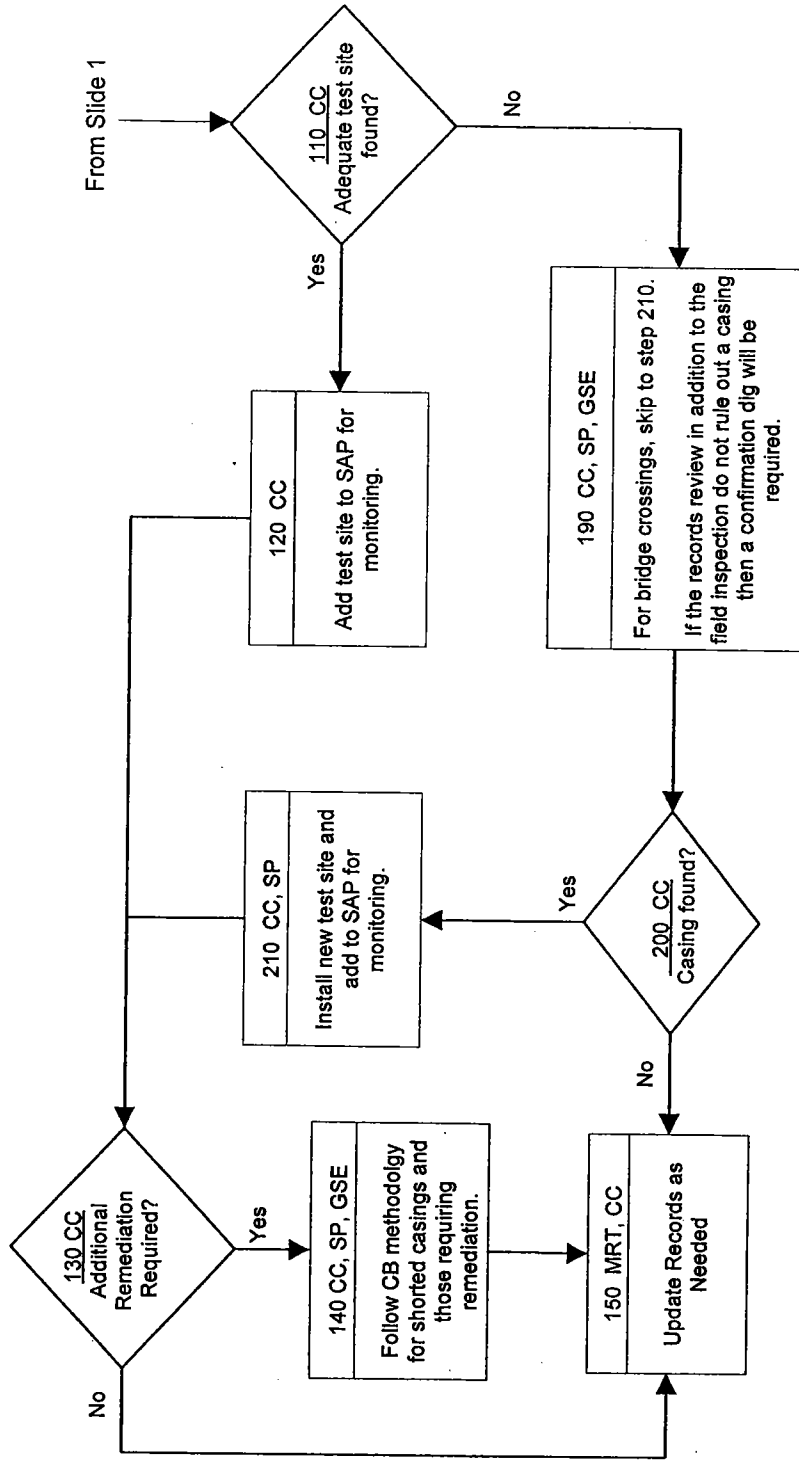
GSE - Gas System Engineering  
 MRT - Maps and Records Technology  
 CC - SC&P, Corrosion Control



## Casing Identification

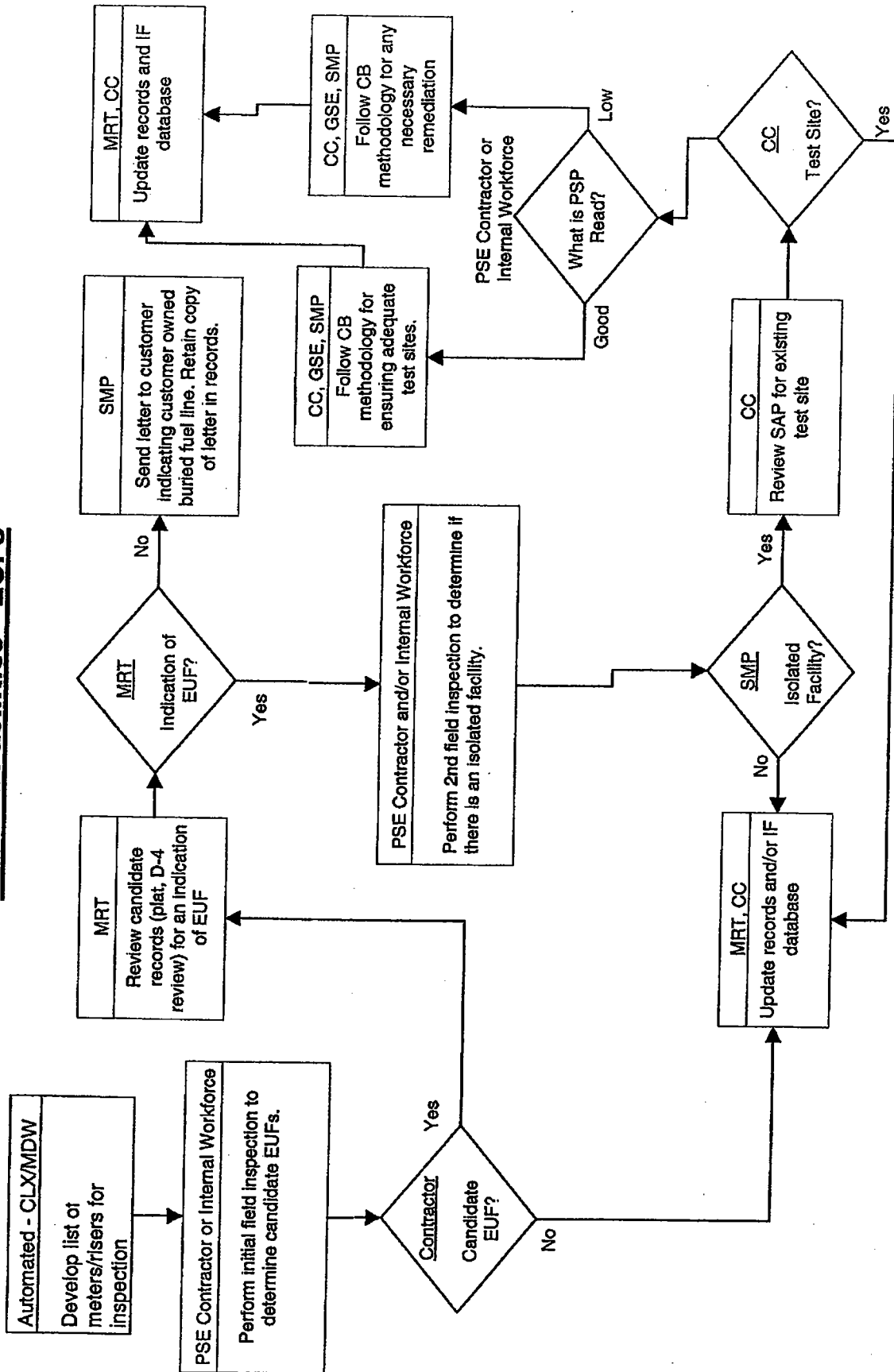


# Casing Identification, Cont.



- GSE - Gas System Engineering
- MRT - Maps and Records Technology
- CC - SC&P, Corrosion Control
- SMP - System Maintenance Planning
- SP - Service Provider
- MP - Maintenance Programs

## Isolated Facilities - EUFs



# APPENDIX F

January 24, 2006

**Re: Underground Fuel Lines**

Dear Customer:

Over the past several months, Puget Sound Energy, Inc. ("PSE") has been conducting a field audit of gas meters to determine the existence of underground fuel lines and service lines. An underground fuel line is buried gas piping that runs between a customer's gas meter and natural gas appliances or equipment, such as a hot tub, pool, shop, or natural gas fueled standby generator. It is owned by the customer and it is the customer's responsibility to maintain the line. In very limited situations, PSE owns, installs and maintains service lines beyond the meter, which are called Extended Utility Facility ("EUF") service.

**We are sending this letter to inform you that PSE's audit identified an EUF service on your property. PSE will be conducting ongoing maintenance of the EUF to prevent leaks and corrosion. Any changes made to the EUF must be performed by the PSE or a PSE contractor under the supervision of PSE. The terms governing EUFs can be found in Rule No. 7 and other provisions of PSE's tariff, on file with the Washington Utilities and Transportation Commission.**

If you plan to excavate near buried piping, the piping should be located in advance and the excavation should be done by hand. A locating service can help locate the piping if you are not sure of its location. For free locating of utility-owned lines (typically from the street to your meter), call 1-800-424-5555 two business days in advance.

If you smell the rotten egg smell of odorized natural gas, call PSE 24 hours a day at 1-888-225-5773 and we will check it for you. For emergencies, call 911.

January 24, 2006  
Page 2

Very truly yours,

[PSE Representative]

January 24, 2006

**Re: Underground Fuel Lines**

Dear Customer:

Over the past several months, Puget Sound Energy, Inc. ("PSE") has been conducting a field audit of gas meters to determine the existence of underground fuel lines and service lines. An underground fuel line is buried gas piping that runs between a customer's gas meter and natural gas appliances or equipment, such as a hot tub, pool, shop, natural gas fueled standby generator. It is owned by the customer and it is the customer's responsibility to maintain the line, except in very limited situations where PSE installed and agreed to maintain a service line.

**We are sending this letter to inform you that PSE's audit identified an underground fuel line on your property that you own. It is your responsibility to maintain this line. If your buried piping is not maintained it may leak or corrode. Buried pipes should be inspected periodically for leaks and, if the piping is metallic, for corrosion. Repairs should be done immediately to correct any unsafe condition. A corrosion control company or a plumbing or heating contractor can help inspect and repair the line. Your responsibilities relating to the installation and maintenance of underground fuel lines can be found in Rule No. 13 of PSE's tariff, on file with the Washington Utilities and Transportation Commission.**

If you plan to excavate near buried piping, the piping should be located in advance and the excavation should be done by hand. A locating service can help locate the piping if you are not sure of its location. For free locating of utility-owned lines (typically from the street to your meter), call 1-800-424-5555 two business days in advance.

January 24, 2006  
Page 2

If you smell the rotten egg smell of odorized natural gas, call PSE 24 hours a day at 1-888-225-5773 and we will check it for you. For emergencies, call 911.

Very truly yours,

[PSE Representative]

# New Isolated Facilities Process (01/23/06)

