PROCESS SAFETY
FOR THE REFINING AND
PETROCHEMICAL INDUSTRIES
AREAS COVERED IN THE SITE ASSESSMENT PROGRAM

- Process Safety Leadership
- Management of Change
- Mechanical Integrity (focused on Fixed Equipment)
- Safe Work Practices
- Operating Practices
- Facility Siting
- Process Hazards Analysis
- HF Alkylation / API RP 751
WHAT THE PROGRAM IS NOT
The Process Safety Site Assessment Program is intended to evaluate the quality of written programs at a site and the effectiveness of field implementation. The Process Safety Site Assessment Program and protocols are not designed to:

- Replace or be interpreted as industry standards, general duties or recognized and generally accepted good engineering practices;
- Provide a complete or comprehensive review of all details that may be associated with a particular process safety program;
- Provide a definitive, required, and/or prioritized list of site requirements;
- Provide legal or technical advice, nor a detailed review or interpretation of the OSHA Process Safety Management Standard or its applicability to a particular process unit or facility; or,
- Replace sound operating or engineering judgment on any activities a facility should take to ensure safe operation.

THE ASSESSMENT PROCESS
Scheduling is done several months in advance to allow for logistical arrangements and information sharing. As part of this process, API staff will visit the site in advance to conduct a logistical meeting.

Having access to site data prior to the assessment is essential to the process. To aid in the exchange of information, API provides a secure FTP site.

SITES MAY CHOOSE

- Full Assessment
  Sites may choose the full set of protocols 1-7
- HF In-Depth Assessment
  Can serve as the site’s three-year API RP 751 audit
- Combination
  Site may select a combination of protocols
A TYPICAL ASSESSMENT WEEK:

- Sunday: Assessment team arrives, team meeting and site safety orientation.
- Monday: Opening conference, site tour, interviews, data collection and field visits.
- Tuesday through Thursday: Interviews, data collection, field visits, daily debrief with site personnel.
- Friday: Report writing, debrief meeting with the Site Manager, closing conference with site personnel, draft report delivered.

SITE ASSESSMENT REPORT

At the conclusion of the assessment week, the site receives a draft report.

Approximately four weeks after completion of the assessment, PSSAP delivers a final assessment report. The final report consists of an executive summary and a detailed write-up for each protocol assessed. Each protocol detail contains observations and good practices by the assessment team as well as the individual scores for each question in the protocol. Benchmarking information is provided as this data is collected.

No copies of the draft or final reports are retained by API once the final report has been issued to the site.

SITE ASSESSMENT TIMELINE

- Rolling Assessment Schedule Established
- Pre-Planning Begins
- Site Provides Information to PSSAP
- Assessment Billing
- Final Assessment Report
- Data Trending and Review By API Steering Committee
- Pre-Assessment Prep
- Assessor Team Assigned; Pre-Planning Visit By PSSAP
The Process Safety Site Assessment Program (PSSAP) is focused on higher risk activities in petroleum refining and petrochemical facilities. This program primarily involves the assessment of a site’s process safety systems by independent and credible third-party teams of industry-qualified process safety expert assessors.

Through the use of industry-developed protocols, the assessments will evaluate both the quality of the written programs and the effectiveness of field implementation.

**PROMOTING A CULTURE OF PROCESS SAFETY**

This program is designed to:

1. Promote step changes in process safety performance industry wide;
2. Promote learning from sharing of experiences and industry-proven practices;
3. Provide benchmarking opportunities through the use of industry developed protocols;
4. Serve as a feedback mechanism for analysis of performance data to identify trends and patterns;
5. Encourage information exchange regarding process safety among participating sites and industry experts.

**THE PROTOCOLS IN DETAIL**

Industry-developed protocols are the basis for the site assessments. A protocol was created in each area by the collaborative effort of subject matter experts from a wide range of companies.

The eight protocols have a total of over 1,000 questions which the assessors rate and give written feedback.

Please contact us if you would like a copy of the protocols.

**SCORING**

Each question is weighted from 1 to 4, relative to its importance of preventing a process safety event.

When the assessor rates the question from 0 to 4, that rate is multiplied against the weighting, which gives the final score.

Example: A rating of 3.0 on a question weighted 4 gives a total of 12 points out of a possible 16 points, yielding a final score of 75%.

### SITE ASSESSMENT PROTOCOL

How has the site implemented Mechanical Integrity procedures and practices for injection points, mix points, corrosion under insulation, and specific equipment damage mechanisms?

<table>
<thead>
<tr>
<th>Rating</th>
<th>Weight</th>
<th>Score</th>
<th>Possible Points</th>
<th>% Points Possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>4</td>
<td>12</td>
<td>16</td>
<td>75%</td>
</tr>
</tbody>
</table>

Score = % 75% Possible Points 16
BENCHMARKING DATABASE
With the site’s permission, the scoring and written observations are blinded and entered into an API database for benchmarking purposes.

OUR ASSESSORS
Assessors are selected from a pool of highly-qualified process safety experts.
The Assessors have an average of 35 years of industry experience in the refining and petrochemical industries. They cannot be currently employed by a refining or petrochemical company.
To be a PSSAP assessor, one must apply and be chosen to go through a training course and panel interview.

RESOURCES AVAILABLE
Assessor Qualifications
What is required to become a qualified assessor.
If you are interested, please contact us.

Industry Developed Protocols
Protocols, worksheets, and other documents to help companies commit to a culture of process safety.

SCHEDULING A SITE ASSESSMENT
If you are interested in having your site assessed by API PSSAP, please contact us:
Email: pssap@api.org
Phone: (+1) 281-978-4940

American Petroleum Institute
PSSAP
1800 West Loop South
Suite 475
Houston, TX 77027
USA