



Minutes
 American Petroleum Institute
CRE
Subcommittee on Inspection
Task Force on Individual Certification Programs

May 10, 2017
 Las Vegas, Nevada

ATTENDEES – MEMBERS:

R. Nichols (Chairman)	Nichols Engineering Consultants
T. Harrington (Vice Chairman)	Chevron
J. Britton	DNV-GL
A. Cain	ATS
J. Harville	P66
G. Hatton	Versa Integrity
DT Holder	TUV Sud
R. Konet	Valero
M. McConnell	Versa Integrity
N. Miller	Sasol
J. Monroe	Chevron
J. Reynolds	Intertek
R. Schubert	Shell Canada Services
K. VanLoon	Provenance Consulting LLC
L. Ward	Georgia Pacific

API Staff: A. Orphanides, H. Decker

ATTENDEES – VISITORS:

1.	O. Akosile	BP	18.	J. Jamaluddin	American Flame Research Committee/ <u>SCHTE</u>
2.	F. Barber	BASF Corporation	19.	J. Johnson	Stress Eng.
3.	K. Ben	Western Refinery	20.	D. Jordan	CVR Energy
4.	S. Bolinger	BP	21.	G. Knight	Team
5.	J. Brechtel	Prometric	22.	J. Krynicki	Exxon Mobil
6.	J. Bui	A.O.C	23.	T. McLane	Holly Frontier
7.	J. Campo	PinnacleART	24.	M. Murray	Mistras
8.	R. Cook	Intertek AIM	25.	R. Nisbet	Team
9.	G. Coupe	Shell	26.	J. Nyholt	San Jacinto College
10.	B. Dulban	Bhp Billiton LTD	27.	D. Reuter	Sinclair Oil
11.	B. Erickson	Prometric	28.	C. Shopoff	Quest Integrity
12.	K. Eubanks	IRISNDT	29.	R. Sladek	A.O.C
13.	M. Farris	Huntsman Corporation	30.	N. Sowa	Mistras Group
14.	M. Geisenhoff	FHR	31.	T. Stancil	Pond & Company
15.	W. Gull/SCHTE	Birwelco USA INC.	32.	R. Stier/SCHTE	Valero
16.	M. Hill	Valero	33.	K. Wintz	TCI
17.	P. Hunt	Consultant	34.	D. Weisgerber	AVH Engineering

I. OPENING, INTRODUCTIONS & ROSTER

A. Orphanides circulated a survey and requested that attendees complete the survey prior to the start of the meeting.

R. Nichols opened the meeting at 10:00 a.m. and circulated the sign-up sheet.

II. APPROVAL OF AGENDA

Agenda approved as submitted.

III. APPROVAL OF MINUTES FROM THE LAST MEETING

Minutes were made available online prior to the meeting.

Discussion:

J. Monroe: Update on ICP no longer giving Member discounts

A. Orphanides: That has not been implemented yet and we do not know if API will implement it this year or next year. There are tax implications for not implementing it and it is still being looked at by upper management.

G. Hatton moved for approval of the minutes as submitted, and the motion was seconded and passed without opposition.

IV. INDIVIDUAL CERTIFICATION STATUS REPORT

ICP Status Report was circulated and approved as submitted.

V. OLD BUSINESS

1. ICP Update:

A. Orphanides:

There is a slump in the overall applications for the 510, 570 and 653.

ICP is seeing a decrease in new applications coming in.

We have seen a 3% drop in 510 certificates in circulation.

Program	April 2012	Oct. 2012	April 2013	Nov. 2013	May 2014	Oct. 2014	April 2015	Nov. 2015	May 2016	Nov. 2016	May 2017
API 510	8556	8994	9746	10221	10871	11300	12290	13424	13946	14992	14663
API 570	7639	8052	8695	9116	9806	10259	10840	11767	13009	13519	13805
API 653	5304	5647	5905	6162	6440	6713	6945	7374	7787	7986	7996

What insights do you have into why this might be occurring?

J. Monroe: The industry is having a huge downturn in the upstream sector itself. The price per barrel has dropped; it's in the \$40/barrel range.

J. Reynolds: The same thing is happening to refining margins. There is also a drop off in the API assessment program, a substantial drop off. It seems to be part of the entire economics of the industry. Only a 3% drop is remarkably good.

A. Orphanides: I'll review the numbers to see what the trends have been over the last two or three years and continue watching going forward just to see what we can expect. Maybe it will continue to drop. Maybe at some point it will go up.

J. Monroe: Agree with what J. Reynolds said. A 3% drop is not bad considering multiple companies are laying off 10-15% of their employees."

D. Jordan: Is there a statistical step change in the number of people retiring? I've had multiple 510-ers retire in the last year-two years.

D. Rueter: Could it also be caused by fact that base certifications for supplemental are no longer required? So those who had base certifications to have the 571/577/580 are just letting them go.

J. Reynolds:

If they're engineers or something like that and they aren't using their 510 or 570 then they could let them go.

I've also wondered when we would finally reach saturation. In the interim we haven't built a whole lot of refineries in the last 30 years. So, it makes sense to me that we would eventually reach saturation in certificates.

B. Dulban: ICP's programs heavily weigh on the word "refining" and missing those who are in chemical plants. Individuals have said, "we are a chemical plant, this doesn't apply to us," when it probably really does apply to us but they keep focusing on the word "Refining." Maybe ICP needs to focus on the word "industry" or "processing" rather than the word "refining."

J. Reynolds: NPRA changed their name to AFPM and "P" in AFPM now stands for petrochemical. They got rid of the refining in NPRA for that reason.

D. Jordan: I can support what B. Dulban is saying. I know from personal experience that the chemical and the fertilizer side believe that it does not apply to them. They don't require or want the assistance of a 510 or 570 person. They'll use certified NDE techs but other than that...

A. Orphanides: I will bring the feedback to API.

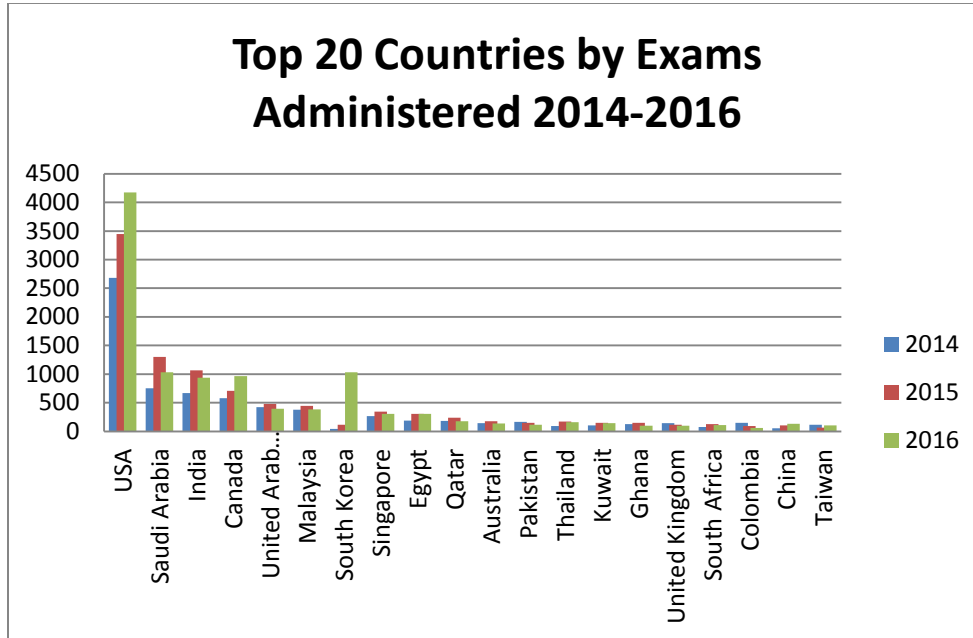
A. Orphanides:

There are 26,762 certified inspectors. ICP is still growing in terms of number of people though not as much as we were in the past.

Worldwide Certified Inspectors (Top 10)

Top 10 Countries	Certified Individuals ▼	%GT Certified Individuals
United States	11953	44.66%
Other	6098	22.79%
Canada	2930	10.95%
South Korea	1471	5.50%
United Arab Emirates	850	3.18%
India	807	3.02%
Malaysia	676	2.53%
United Kingdom	505	1.89%
Singapore	503	1.88%
Qatar	492	1.84%
Egypt	477	1.78%
Total	26762	100.00%

In terms of CBT exams administered, ICP has grown in the US, Saudi Arabia and India. As the 1169 program grows, we will probably see Canada grow as well. We have been working with our Prometric counterparts finding solutions in Canada to ensure that there are a sufficient number of seats open in Canada.



J. Monroe: Why is there such large growth in South Korea?

A. Orphanides: We've seen an interest in Source Inspector - Fixed Equipment and 510 and 570. We also translate 510 and 570 into Korean.

A. Orphanides:

Within API we are using Lean Six Sigma to review our processes and identify pain points and potential improvements.

Looking at cycle time from the time an applicant who submits everything they need until it is reviewed by API's staff is about eight days.

The biggest pain points for API staff are those applicants who didn't submit all their information with their application. These applicants make up 11% of our volume they are our biggest pain point. We are looking at our communication strategy and what instruction could be improved upon or how we can make our system smarter.

Additionally, H. Decker will be reviewing ICP's Test Development Processes and looking to see if we can cut down the amount of time it takes to build the exam and to get applicants their final scores.

L. Ward: Please provide the ICP report electronically

A. Orphanides: We will make it available and upload it to the website

2. Online Portal Update

A. Orphanides: ICP completed an overhaul on the MyICP site (<http://myicp.api.org/quizlogin.aspx>) which was released two weeks ago. ICP has introduced web quizzes with language modules for applicants who took their original exams in Chinese, Korean or Spanish. The new questions will be introduced within the next month.

J. Harville: There had been discussion about merging the ICP Portal and MyICP in order to allow inspectors to access all their information on the same site. Has there been any progress?

A. Orphanides: The merger will likely occur when API institutes CRM as our association's management system. About a year ago, ICP linked the login information for the ICP Portal and MyICP. Additionally, if inspectors need to take a web quiz, the MyICP login page link is displayed on their ICP Portal account page.

3. Discussion about the size of our 510/570/653 exam

R. Nichols: API is studying how long it takes applicants to complete the 510, 570 and 653 exams; most people are completing the exam early. API is considering possibly change the overall time allotted.

J. Monroe: Any thoughts on expanding the number of questions. As the number of documents increases, it's difficult for the exam to cover all sections that an inspector should know adequately. Instead of 125 scored questions, make it 175 questions to get more information in the exam.

Unknown: Will the timing data be based off the old exams or the computerized exams?

A. Orphanides: There are very few paper-based exams now.

B. Erickson (Prometric): API only runs about 100 paper-based exams a year in remote areas

4. SUMMARY OF ISSUES AT TESTING SITES

Unknown: Applicants cannot have the code books and the questions up at the same time. All information is on one screen instead of two.

B. Erickson (Prometric): Prometric test centers have 23-inch monitors but don't have dual monitors at our sites.

Prometric is implementing a new test driver which API will migrate over in the near future. That will allow us to have a practice test available outside of the test center. Applicants will be able to familiarize themselves with the navigation.

Today there is a generic practice test, Test Drive, available at the testing centers. It costs \$30.00.

VI. New Business

5. QUSE-PA

A. Orphanides: The pilot testing for the Crack-Sizing-Phased Array (QUSE-PA) exam is complete and there was a 50% pass rate. ICP will release the QUSE-PA application for candidates with in the next month.

J. Nyholt: The QUSE-PA updates the exam for the current technology. 20 technicians, of different experience levels, beta tested the QUSE-PA with a 50% pass rate.

6. OVERVIEW FOR INTRODUCTION OF NEW CERTIFICATION PROGRAMS

A. Orphanides: API/ICP is developing a standardized process for onboarding new certification programs.

An idea gets initiated and consensus is built amongst peers, groups and relevant subcommittees and committees. Then API will review it against API policies; including policy 601, which considers the proposed program's ability to be self-supporting

R. Nichols: This is very similar to the gate system for projects in member companies.

a. New Program API 573: Inspection of Fired Boilers and Heaters

T. Harrington: Presented the idea for API 573 to the Subcommittee on Heat Transfer Equipment (SCHTE). This proposal has support from a few owner/users that see value. The SCHTE was not convinced of the same.

The idea for this certification would be that it would be an Inspector certification, not for specialists or those designing heaters. Some owner/operators suggested that their specific companies had experts who handled the inspection of heaters. A 573 Inspector Certification program would be an attempt to equip inspectors with general knowledge and understanding of various heater components – knowing what to look for and where – to help them do a better job of inspecting heaters.

The business case will be added to the minutes

Walter Gull, Vice-Chair of SCHTE: Cannot say now if body of the SCHTE is for or against the certification, but we understand there is a need for better-informed inspectors

Randy Stier, Past Chair of SCHTE:

The SCHTE did raise concerns regarding the complexity of the different systems found in a fired heater and the uniqueness between different fired heaters. Each fired heater is a custom piece of equipment and depending what service it is in, it could be dramatically different. The SCHTE would like to know what would be considered in the training and program that would cover it more broadly. This is a learning process for the SCHTE.

For this certification to be effective, SCHTE needs to provide support. Keep SCHTE informed about its progress, the time table and resources you might need. SCHTE will make it a point of reaching out to members and get support in place.

R. Nichols: That idea is to reach out to SCHTE. This certification is to ensure that the industry has a way to qualify people that understand the more complex aspects of Heat Transfer Equipment.

J. Harville: This is a good opportunity to add information to API RP 573.

S. Bolinger expressed his support for SCHTE involvement

A. Orphanides: The proposed program would get the committee approval if it is needed, if SCHTE is the committee that is going to take advantage of the certification. However, the proposed program is for inspectors.

R. Stier:

The majority of our members didn't know anything about this program prior to the discussion and that it was a topic of discussion.

In the Fall, SCHTE could provide a window of time for a better presentation with a better understanding of what this program would entail.

Fired Heater personnel do want their equipment to run and be maintained well.

R. Stier stressed the need for involvement by the SCHTE and T. Harrington agreed that such involvement was welcomed and encouraged.

A. Orphanides: ICP needs to submit the value case to API to ensure that it meets API objectives.

D. Reuter: Would API 573 be a supplement certification? Would it be required certification?

A. Orphanides: API 573 would be a specialized certification.

J. Reynolds: It would not be required.

R. Nichols: API 573 is an opportunity for an individual to be certified as a fired heater/boiler inspector.

Unknown: Not necessarily to be certified, but to show that they have a further knowledge of Fired Heaters.

J. Reynolds: In passing the exam associated with the certification, they would be certified. It would be like the 571, 577 and 580. It is for inspectors to show that they have studied enough to pass an examination displaying their increased knowledge in heater mechanical integrity issues.

D. Reuter: API 573 is different from damage mechanisms (571) or RBI (580). Fired Heaters are assets. If this certification is created, would the industry get hit with individuals only working as only heater inspectors? In order to inspect heat transfer equipment, the individual should have knowledge of API 510 and 570.

A. Orphanides: ICP could make 573 a supplemental certification. If the subject matter experts who build the qualifications determine that the certified individual needs the 510 or 570 as a basis, the qualifications can reflect that.

J. Monroe: This Task Force needs to understand the scope a little better and the documents that would be included before presenting to SCHTE again.

T. Harrington: Next step is to define the reference documents and what is and is not included. What is the body of knowledge that demonstrates competency?

J. Harville:

This Task Force needs to better formalize the scope of the proposal.

Point of order: In order for this Task Force not to repeat any past failures such as the 576 program which the SCIMI shot down, this proposal needs support in this Task Force before bringing it to the SCIMI.

R. Stier: If someone is certified to inspect the boiler are they going to inspect the burner? If someone is going to inspect the fired heater are they going to inspect the rotating equipment? SCHTE does not fully understand the proposed scope.

T. Harrington: Point of Clarification: During the SCHTE, the question was asked would this certification be for individuals to inspect certain components. The answer is "no." The certified individual for fired heaters it would be all inclusive everything from bottom to top.

R. Stier: Based of what T. Harrington just said this is not a certification for fixed equipment but for someone to inspect the entire fired heater, the entire furnace and the entire boiler.

J. Reynolds: API 573 would certify inspectors to inspect heaters that are covered in API RP 573. The certification would not certify individuals to inspect components not listed in API RP 573.

T. Harrington & J. Reynolds: An individual certified to 573 would have the knowledge to inspect burners to the extent that is covered in 573.

R. Nichols: The next step is to put together a group to clarify the issues discussed and what the scope of the proposed certification would be and what documents might be included.

Volunteers	
T. Harrington (lead)	J. Harville
D. Jordan	R. Konet
T. McLane	N. Miller
J. Reynolds	K. Vanloon
L. Ward	

R. Stier: Send SCHTE written documentation explaining about what is included and the SCHTE will share it with the consensus group before the Fall meeting.

R. Nichols: In the fall, we will review the work of the study group and bring the proposed 573 certification to a vote.

J. Reynolds: Need to flesh out what portions of the five documents that would be included in the body of knowledge and the exam.

T. Harrington: Does this Task Force support going forward with the proposal?

R. Nichols: Non-binding straw vote

Most agreed, 2 Opposed

Consensus is to continue with API 573 and bring it to another discussion in the fall.

b. Other discussions on New Certification programs

B. Dulban: Shops that manufacture tanks are producing 2:1 Fiberglass tanks. There is no document on the inspection and testing of fiberglass tanks other than [RP 2007](#), not an API document. The gap is that there is no document, no certification and no trained individuals.

J. Harville: More appropriate to propose to SCAST and add to the BOK for 653.

J. Reynolds: A gap not likely to be closed by a downstream organization, more an upstream issue.

B. Dulban: Fiberglass tanks exist in the refineries/downstream

R. Nichols: Will work with B. Dulban to discuss with SCAST.

7. ADDITION OF ITEMS REFERENCING WPQS FORMS TO 510/570/653 EXAMS

G. Hatton: The 510, 570 and 653 exams have questions on WPS/PQR forms. However, inspectors in the field have to determine whether the welder is certified to the WPS. The WPQ should be part of the 510/570/653 exam so that the candidates can learn to correlate the WPS and WPQ.

H. Decker: WPQ related questions already have a specific subdomain in the existing test specifications. It does not require a job analysis; it could just be added to the BOK for the three exams.

G. Hatton: Not all certified inspector take the API 577 exam after. The basic exams currently have WPS/PQR forms and related questions but not WPQ forms and related questions.

N. Miller: Many trainers don't focus on the welding or the calculation portion of the exam because an applicant doesn't have to score anything on those sections and still pass the exam. There is not a minimum score on the welding section that an applicant must pass to pass the exam.

J. Reynolds: If adding the WPQ is supported by the existing test specification then it is a simple fix to add in those questions.

K. Vanloon: Should the exam have more questions?

J. Reynolds: That is a complicated change.

J. Monroe: If the timing study shows that applicants are completing the exam early, then there is an opportunity to add more items to the exam.

8. API LINKEDIN/WHITE LABEL

A. Orphanides:

ICP has a social media presence, please join and help grow it.

Facebook: @OfficialAPIGlobal

Twitter: @APIGlobal

Linkedin: API Global Pro

ICP has an opportunity to do webinar sessions with Inspectioneering to showcase ICP programs. If you are interested in presenting on the topics listed below or on other themes, please let ICP know.

- **570 & 510**
 - The intersection of managing risk in piping and pressure vessels
 - Performance testing and updates in inspection methods for 510/570
 - Systematic methods for 510/570 inspection of piping and pressure vessels
- **Source Inspection**
 - Source inspection as a major quality activity for QMS teams
 - Explore the full impact of source inspection activities on QMS and operations
 - How to identify supplier quality for fixed, rotating and electrical equipment

9. DISCUSSION

B. Dulban: The SIFE Exam is one of ICP's most important certification programs. Inspectors in the field cannot inspect the quality of the product after it is put in service. Issues often arise from poor quality that is transferred to the field. The industry needs a specialized document to support Source Inspection.

J. Reynolds: Just approved a new document for Source Inspection. Tentatively it is 588.

A. Orphanides: The new document is budgeted for 2018

MEETING ADJOURNED

Next Meeting:

Fall Refining Meeting
November 15, 2017, Dallas, Texas

API-573 Fired Heater Inspector Certification

Current State:

Currently, the API has many critical assets covered under their Codes and Standards, with Certification Programs. One area which is not currently addressed is the mechanical portion of inspection and maintenance of Fired Heaters. As Operators identify focus areas or higher risk equipment, Fired Heaters are one of the higher-ranking asset groups.

Proposed Certification:

The API-573 Fired Heater Inspector Certification will be for those Company and Service Provider Inspectors who provide Inspection services and/or planning for Fired Heaters. The mechanical inspection aspect will be emphasized thru this program, however insulating brick and refractory are also of significance. While an API-936 certification already exists for Refractory, that certification is primarily related to new installations versus assessments of existing installations. The 573 curriculum and testing will strive to ensure that there is a good and general understanding of Refractory and the role it plays in Heater Mechanical Integrity (MI). Included in the mechanical portion of certification testing, will be inspection of ancillary equipment of a Fired Heater (Burners, Louvers, Fuel Gas Piping, Dampners, Stacks, Structures, Civil, Hangers....etc), as well as the Radiant/Convection tubes.

This certification will help provide some assurance to Owner/Users and Service Providers that the Inspector who is certified has the base knowledge and capacity to perform Inspections on their behalf or provide informed coordination with other, specialty Inspectors/Engineers.

Impact:

Reduction of Process Safety/Loss of Containment events and downtime due to Mechanical Integrity problems, thru proper Inspection and Maintenance of Fired Equipment.

If not Implemented (Risk):

A gap will continue to exist on the Integrity Management portion of Refinery/Facility Fired Equipment. Uncertainty in equipment condition will continue to contribute to unplanned Process Safety incidents and High Consequence Loss of Containment events.

Misc:

- Q: What problem are we trying to solve? A: [Trying to reduce the exposure of Owner/Users to higher risk in terms of Environmental impacts, Safety, and Asset losses.](#)
- Q: Is the Subcommittee for Fired Heaters on-board with this? A: [SCHTE expressed interest in participating at the Spring 2017 Refining Meeting.](#)
- Q: Do Owner/Users Support this initiative? A: [Several Owner/Users support in principle. A straw vote at the Spring 2017 ICP T/G meeting showed significant support.](#)
- Q: What will be the main documents for the Body of Knowledge? A:
 - [API-573 \(Focus almost exclusively on 573\)](#)
 - [API-560 \(Certain Parts Only\)](#)
 - [API-571 \(Certain Parts Only\)](#)
 - [API-577](#)
 - [Other...TBD](#)
- Q: Does the API have enough resources to build this Certification Program? A: [Based on participation for exam construction and previous program development, the API feels confident](#)

API-573 Fired Heater Inspector Certification

that the program would be adequately supported through the current and anticipated participation levels.

Content Areas for Exam:

1. Scope
2. Nomenclature
3. Onstream Inspection
4. Shutdown Inspection
5. Onstream/Shutdown Planning
6. Frequency and Timing of Inspection(s)
7. Tube Repairs
8. Design
 - a. Allowable Stress
 - b. Components (Castings/Forgings/Pipe/Centrifugally Cast...etc)
 - c. Fabrication Techniques
 - d. Materials and Properties
 - e. MAWP calculations
 - f. Minimum Thickness?
 - g. Rerating
 - h. Thermal Expansion
 - i. Etc.....
9. Pressure Testing
10. NDE Requirements
11. NDE Applications/Limitations
12. Refractory
 - a. Refractory Types
 - b. General assessment techniques of existing refractory installations
13. IR for Fired Equipment
14. Corrosion/Damage Mechanisms
15. Tube Fouling
16. Welding/Cutting
 - a. Discontinuities/Defects
 - b. Dissimilar Metals
 - c. Filler Metals
 - d. P-numbers, F-numbers, A-numbers
 - e. Positions/Techniques
 - f. Pre-heat/Post-weld heat treat
 - g. Welding Processes
 - h. Symbols/Nomenclature
 - i. Weld Acceptance Criteria
 - j. WPQ/WPS/PQR
 - k. Etc.....
17. Tube Cleaning
18. Smart Pigging
19. Data Evaluation
20. Tube Supports (Inspection/Repair)
21. Typical Materials Used in Fired Equipment

API-573 Fired Heater Inspector Certification

22. Safety Precautions, Preparatory Work, Cleaning
23. Foundation Inspection/Evaluation
24. Records and Reports
25. Inspector Qualifications
26. Roles/Responsibilities

DRAFT

Agenda
 American Petroleum Institute
 SUBCOMMITTEE ON INSPECTION
 TASK FORCE ON INDIVIDUAL CERTIFICATION

10:00 am – 12:00 pm.
 Wednesday
 May 10, 2017

Rick Nichols, Chairman
 Travis Harrington, Vice Chairman

1. OPENING	R. Nichols
2. APPROVAL OF AGENDA	R. Nichols
3. APPROVAL OF MINUTES FROM LAST MEETING	R. Nichols
4. INDIVIDUAL CERTIFICATION STATUS REPORT	A. Orphanides
5. OLD BUSINESS 1. Online Portal Update 2. Discussion about the size of our 510/570/653 exam 3. Summary of issues at testing sites	A. Orphanides
6. NEW BUSINESS 1. QUSE-PA (John Nyholt) 2. Overview for Introduction of New Certification Programs a. Fired Heater Inspection Certification 3. Addition of Items referencing WPQs forms to 510/570/653 exams (G. Hatton) 4. API LinkedIn/White Label	A. Orphanides
7. FUTURE MEETINGS/NEXT MEETING DATE Fall Refining Meeting, November 15, 2017, Dallas, Texas	

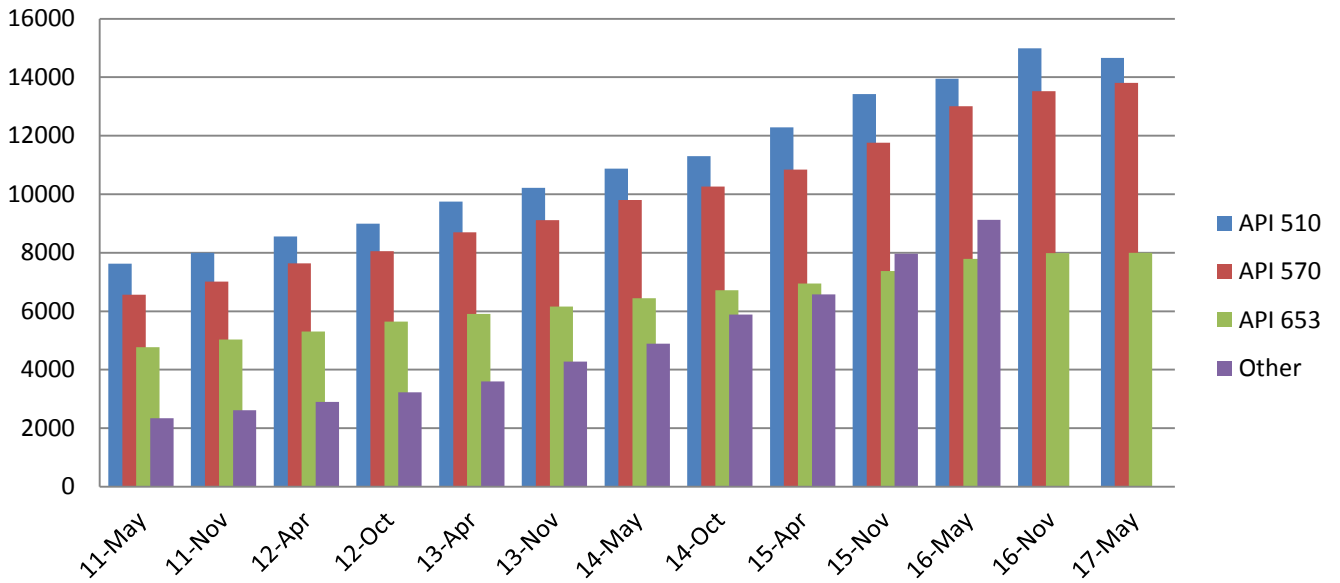
Individual Certification Programs Status Update

Breakdown as of
04/31/2017

Andri Orphanides



Growth of Certificates by Program



Program	April 2012	Oct. 2012	April 2013	Nov. 2013	May 2014	Oct. 2014	April 2015	Nov. 2015	May 2016	Nov. 2016	May 2017
API 510	8556	8994	9746	10221	10871	11300	12290	13424	13946	14992	14663
API 570	7639	8052	8695	9116	9806	10259	10840	11767	13009	13519	13805
API 653	5304	5647	5905	6162	6440	6713	6945	7374	7787	7986	7996
API 936	706	784	901	964	1051	1173	1232	1326	1409	1533	1551
TES	518	572	609	631	629	626	658	678	673	680	649
API 571	327	355	382	416	481	595	707	878	988	1147	1211
API 580	419	490	565	645	778	1061	1288	1651	1844	2136	2250
API 577	129	148	161	182	216	283	337	436	484	543	573
QUTE	241	269	286	327	339	323	343	373	385	424	385
QUSE				18	21	23	27	35	41	55	61
QUPA				43	56	62	85	111	132	175	198
SI - FE					33	129	179	294	463	732	850
API 1169							30	102	158	522	1357
SI-RE									4	16	33
ACP										3	7
SIEE											1
TOTAL	23863	25335	27279	28725	30721	32547	34961	38449	41,325	44,463	45,590

We have seen a decline in the number of new applications. In our cornerstone programs (510, 570, and 653) we have seen a decrease by about 40% from the same time last year. Also, at this time, we see a decrease specifically in the number of 510 certifications in circulation (see highlight above).

Certified Inspectors Worldwide

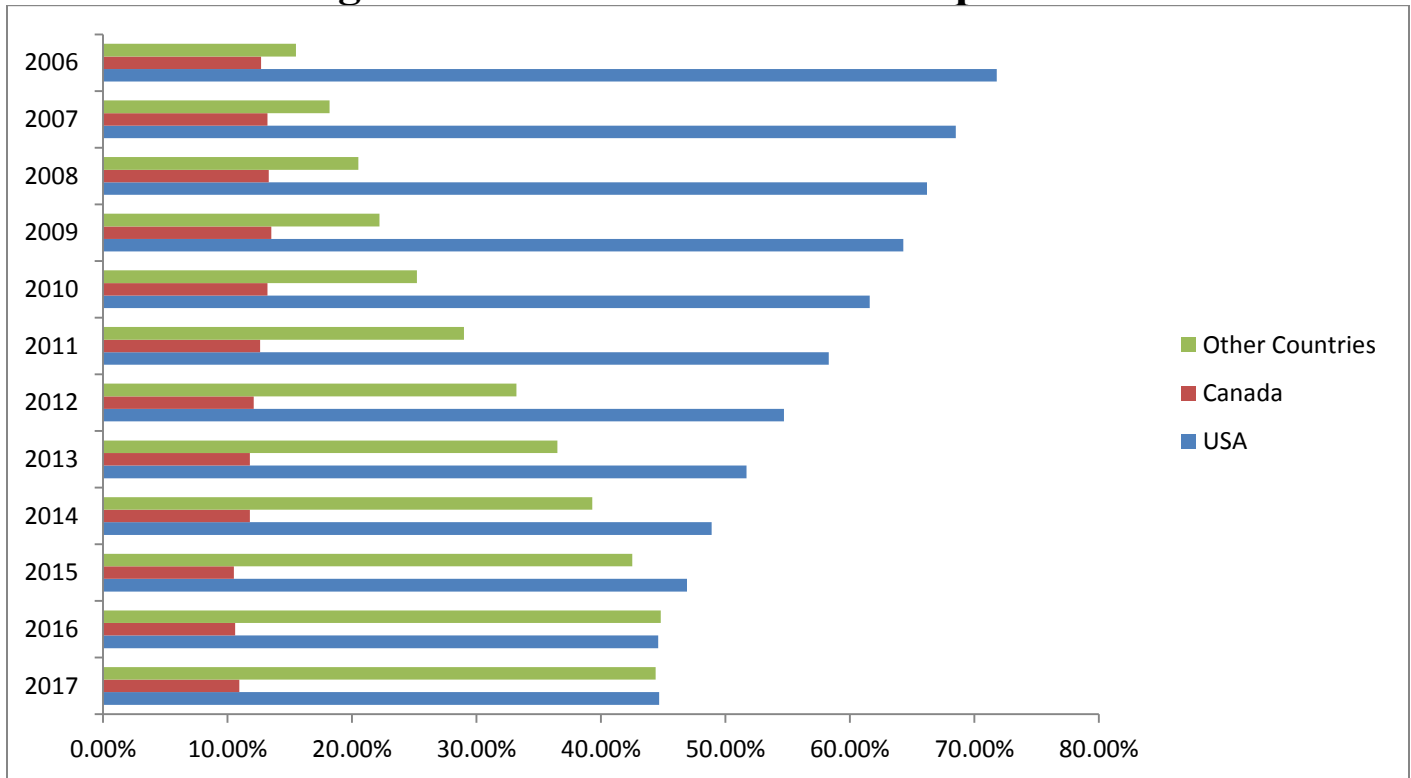


Worldwide Certified Inspectors (Top 10)

Top 10 Countries	Certified Individuals ▼	%GT Certified Individuals
United States	11953	44.66%
Other	6098	22.79%
Canada	2930	10.95%
South Korea	1471	5.50%
United Arab Emirates	850	3.18%
India	807	3.02%
Malaysia	676	2.53%
United Kingdom	505	1.89%
Singapore	503	1.88%
Qatar	492	1.84%
Egypt	477	1.78%
Total	26762	100.00%

ICP currently has over 26,500 inspectors in 127 countries.

Percentage Breakdown of Certified Inspectors



Note: 2017 numbers are as of Q1

Year	USA	Canada	Other countries
2006	5350	949	1155
2007	5598	1079	1489
2008	5964	1196	1842
2009	6495	1358	2243
2010	6846	1468	2807
2011	7408	1605	3688
2012	7934	1761	4820
2013	8483	1936	5979
2014	8984	2165	7221
2015	10137	2277	9180
2016	11065	2638	11112
2017	11953	2930	11879

Over time, we see that the number of certificates issued in our foreign countries has grown. They currently almost match the number of certificates held in the U.S.

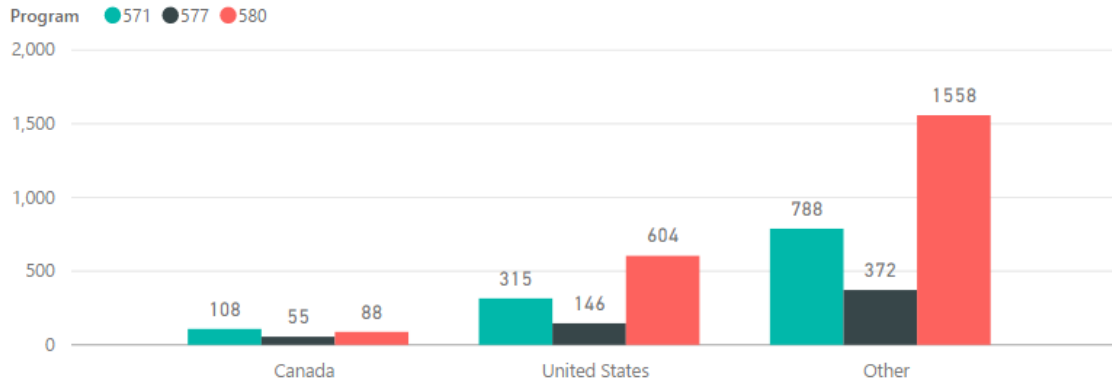
Global Certificate Distribution (Total by Country)



Top 10 Countries and Others Certificates Distribution

Top 10 Countries (Certificates)	Count of Certificates ▼	%GT Count of Certificates
United States	20900	45.84%
Other	8227	18.05%
Canada	4757	10.43%
Kingdom of Saudi Arabia	3110	6.82%
South Korea	1826	4.01%
United Arab Emirates	1686	3.70%
India	1243	2.73%
Qatar	1085	2.38%
Malaysia	1040	2.28%
Egypt	943	2.07%
United Kingdom	773	1.70%
Total	45590	100.00%

Breakdown of Specialized Programs

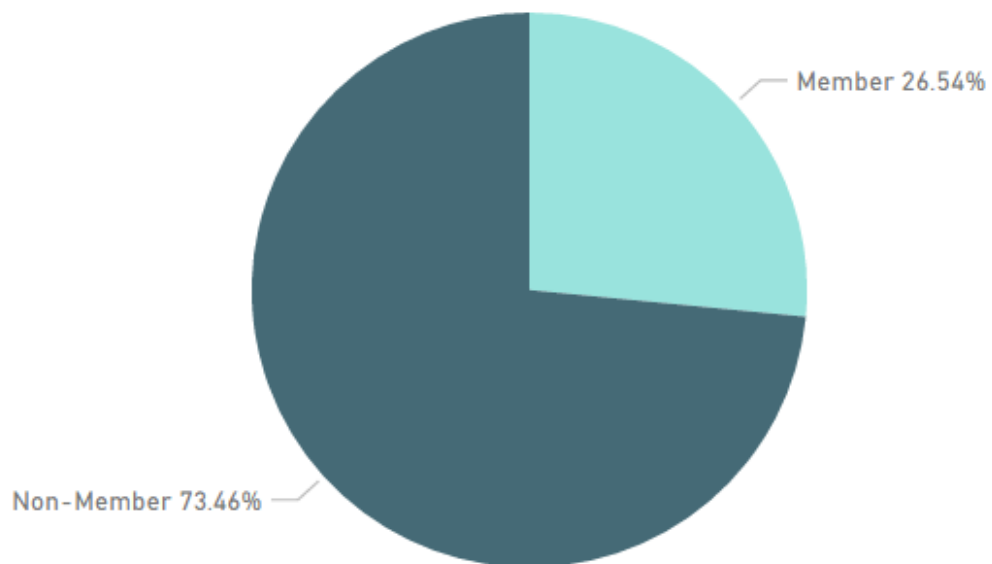


571, 577 and 580 Global Count

US, Canada & Foreign	571	577	580	...
Canada	108	55	88	251
United States	315	146	604	1065
Other	788	372	1558	2718
Total	1211	573	2250	4034

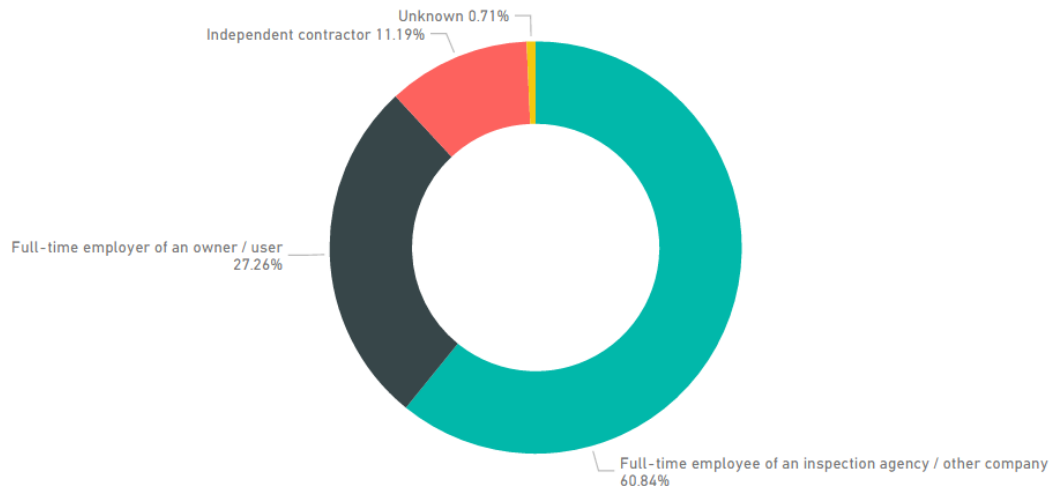
Member vs. Non-Member

Certified Individuals by Member Type

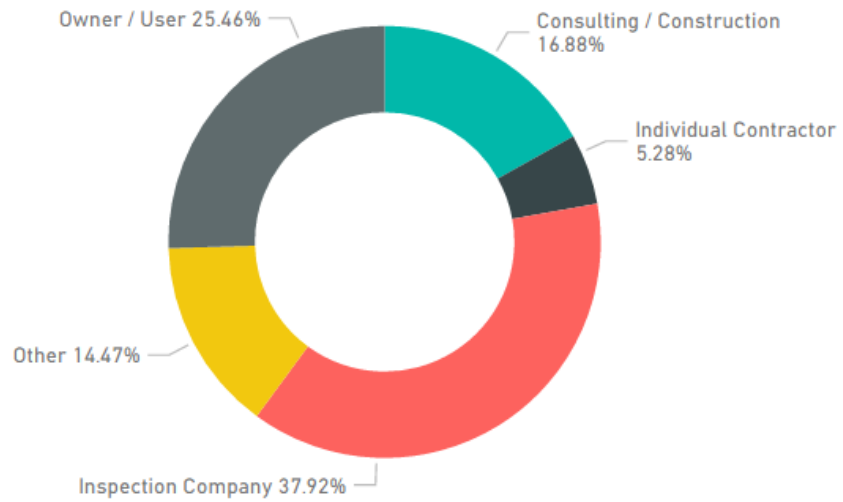


Demographic Breakdown of Certified Inspectors

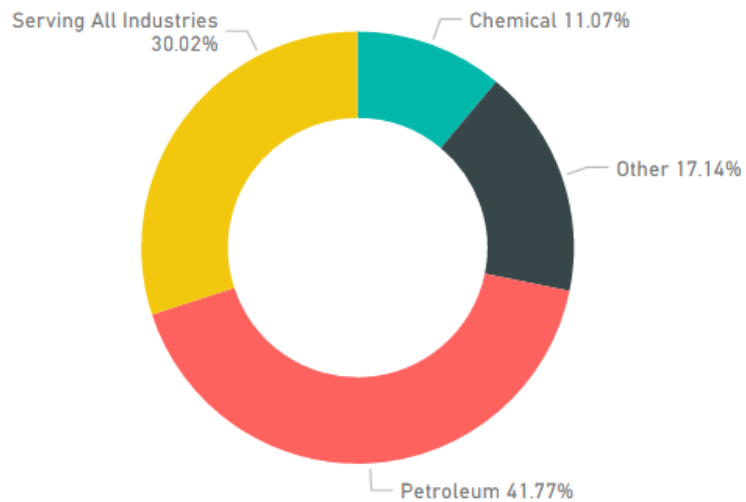
Certified Individuals by Employment Status



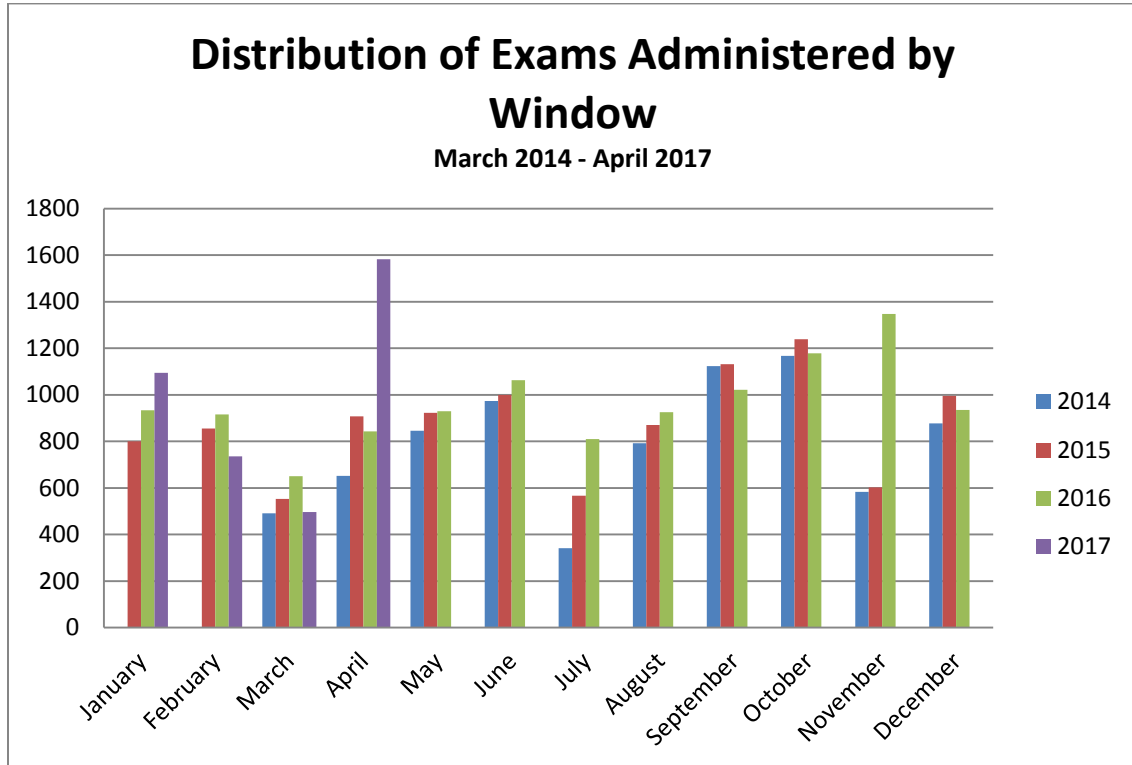
Certified Individuals by Organization Type



Certified Individuals by Industry Served

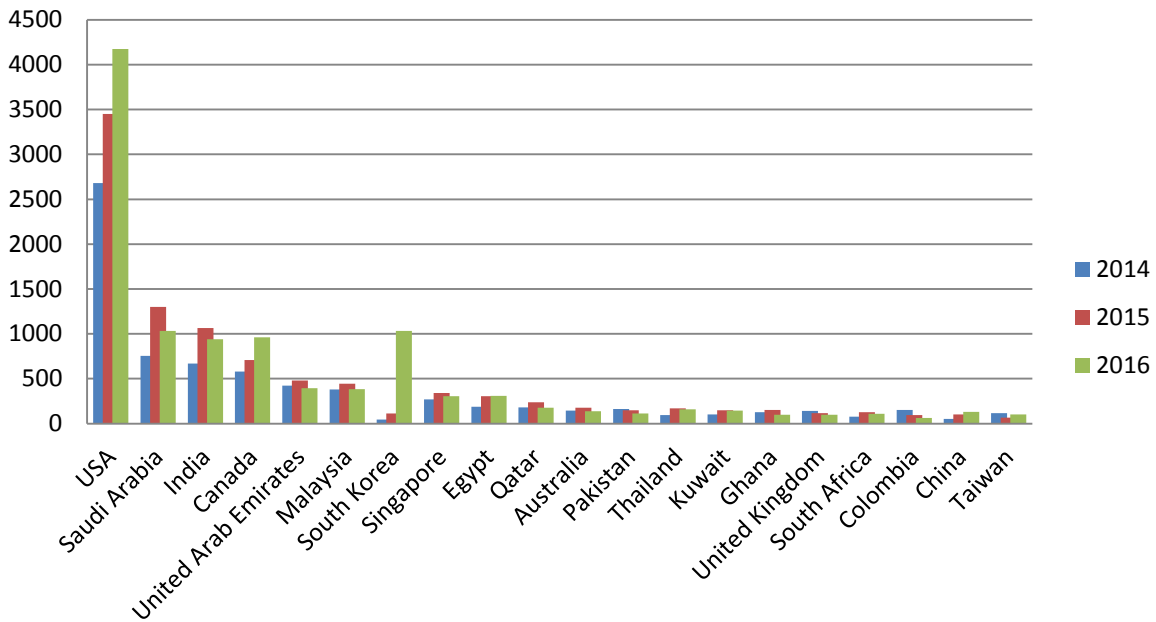


Breakdown of Exams Administered



Year	Exams Administered
2014	7,845
2015	10,445
2016	11,555
2017 (Q1)	3,911

Top 20 Countries by Exams Administered 2014-2016



Between 2014 and 2016, ICP has administered 29,845 exams in 72 different countries. We have utilized 321 of the over 500 Prometric testing centers around the world.

Above is a chart that shows the top 20 countries by growth since the introduction of computer based testing centers in 2014. As you can see, over time, 27,919 of our exams were delivered in those top 20 countries.

Country Top 20	Total
USA	10306
Saudi Arabia	3086
India	2670
Canada	2251
United Arab Emirates	1293
Malaysia	1205
South Korea	1190
Singapore	916
Egypt	800
Qatar	594
Australia	458
Pakistan	425
Thailand	423
Kuwait	394
Ghana	374
United Kingdom	354
South Africa	309
Colombia	304
China	284
Taiwan	283
Total	27919

**Historical
Exam Performance**

API 510 - Pressure Vessel Inspectors

Year	Exam Administration	CANDI-DATES	PASS	FAIL	PASS %	Pass Point
2010	June	678	357	321	51.7	109
	September	344	201	143	58.4	109
	December	651	342	309	52.5	110
2011	June	742	392	350	52.8	108
	September	440	216	224	49.1	108
	December	833	445	388	53.4	109
2012	June	988	554	434	56.1	109
	September	634	337	297	53.2	109
	December	795	485	310	61.1	90*
2013	June	960	559	401	58.2	90
	September	603	341	262	56.6	90
	December	928	521	407	56.1	86
2014	May	972	530	442	54.5	85
	September	1194	675	519	56.5	85/86
2015	January	875	494	281	56.5	85/86
	May	1048	582	466	55.5	85/86
	September	1208	743	506	61.5	85/86
2016	January	1015	626	389	61.7	85/86
	May	909	541	368	59.4	87/88
	September	1020	607	413	59.5	87/88
2017	January	692	438	254	63.2	87/88

API 653 - Aboveground Storage Tanks Inspectors

Year	Exam administration	CANDIDATES	PASS	FAIL	PASS %	PASS POINT
2010	March	473	274	199	57.9	103
	September	492	300	192	61.0	103
2011	March	586	319	267	54.4	101
	September	660	332	328	50.3	101
2012	March	683	383	300	56.1	105
	September	691	419	272	60.6	107
2013	March	644	364	280	56.5	86
	September	645	381	264	59.1	86
2014	March	462	259	203	56.1	89
	July	329	197	132	60.0	89
	November	540	308	232	57.0	89
2015	March	464	260	204	56.0	89
	July	438	272	166	62.1	89
	November	460	217	243	47.2	90/87
2016	March	493	272	221	55.2	90/87
	July	449	225	224	50.1	90/87
2017	March	394	212	182	53.8	91

API 570 - Piping Inspectors

Year	Exam administrati on	CANDI- DATES	PASS	FAIL	PASS %	PASS POINT
2010	June	815	428	387	52.5	107
	September	351	178	173	50.7	107
	December	735		360	51.0	110
2011	June	882	487	395	55.2	108
	September	454	224	230	49.3	108
	December	981	526	455	53.6	110
2012	June	1002	506	496	50.5	110
	September	732	353	379	48.2	111
	December	784	366	418	46.7	86*
2013	June	1078	556	522	51.6	87
	September	730	349	381	47.8	87
	December	941	527	414	56.0	90
2014	June	1133	554	579	48.9	90
	October	1107	548	559	49.5	90
2015	February	1070	517	537	48.3.	89
	June	1208	672	536	55.6	89
	October	1318	759	721	57.6	89/90
2016	February	1100	599	501	54.5	89/90
	June	1000	546	454	54.6	89/90
	October	1180	707	473	59.9	89/90
2017	February	742	410	332	55.2	91/92

API UT Examiners

Year	Session #	Exam administration	CANDI-DATES	PASS	FAIL	PASS %	
2013	44	January	6	4	2		
	45	January	17	9	8		
	46	February	6	3	3		
	47	February	20	15	5		
	48	March	6	2	4		
	49	May	18	10	8		
	50		6	5	1		
	51		24	15	9		
	52	July	16	9	7		
	53	August	13	10	3		
	54	September	18	10	8	55.6	
	55	November	18	10	8	55.6	
	2014	56	January	15	11	4	
		57	March	5	0	5	
58		May	19	12	7		
59		July	25	11	14		
60		September	18	11	7		
61		November	20	13	7	65	
2015	62	January	10	5	5		
	63	February I	8	4	4		
	64	February II	4	1	3		
	65	March	24	17	7	70.8%	
	66	May	27	23	4	85.2	
	67	July	10	7	3	70	
	68	August	13	10	3	76.9	
	69	September	6	4	2	66.7	
	70	October	7	5	2	71.4	
	71	November	17	12	5	70.6	
	72	December	4	1	3	25.00	
2016	74	January	15	10	5	66.67	
	76	March	29	22	7	75.86	
	77	June	30	17	13	56.67	
	78		3	2	1	66.67	
	79		22	12	10	54.55	
	80	September	15	10	5	66.67	
81	November	17	10	7	58.82		
2017	82	January	16	10	6	62.50	
	83	March	20	12	8	60	

API UT Examiners (Sizing)

Year	Exam administration	CANDI-DATES	PASS	FAIL	PASS %
2007	pilot		3		
2009	December	11	1	10	9
2010	No applications				
2011	July	5	3	2	60
	November	4	2	2	50
2012	March	3	1	2	
	June	1	0	1	0
	November	1	0	1	
2013	March	6	3	3	
	September	7	5	2	
	November	6	2	4	33.3
2014	January	1	1	0	
	July	3	2	1	
	September	1	1	0	
2015	January	3	2	1	
	February I	15	1	14	
64	February II	-	-	-	
65	March	9	2	7	22.2
66	May	4	3	1	75
67	July	9	3	6	33.3
68	August	2	0	2	0
69	September	4	1	3	75
71	November	4	0	4	0
72	December	2	0	2	0
2016, 74	January	9	5	4	55.56
76	March	8	1	7	12.5
77	June	10	4	6	40.00
78		7	2	5	28.57
79		15	6	9	40
80	September	6	2	4	33.33
81	November	11	8	3	72.73
2017, 82	January	6	2	4	33.33
83	March	3	1	2	33.33

API UT Examiners (Phased Array)

Year	Exam administration	CANDI-DATES	PASS	FAIL	PASS %
2007	pilot		3		
2009	December	11	1	10	9
2010	No applications				
2011	July	5	3	2	60
	November	4	2	2	50
2012	March	3	1	2	
	June	1	0	1	0
	November	1	0	1	
2013	March	6	3	3	
	September	7	5	2	
	November	6	2	4	33.3
2014	January	1	1	0	
	July	3	2	1	
	September	1	1	0	
2015	January	3	2	1	
	February I	15	1	14	
64	February II	-	-	-	
65	March	9	2	7	22.2
66	May	4	3	1	75
67	July	9	3	6	33.3
68	August	2	0	2	0
69	September	4	1	3	75
71	November	4	0	4	
72	December	2	0	2	
2016, 74	January	9	5	4	80.00
76	March	8	1	7	71.43
77	June	13	12	1	92.31
78		3	2	1	66.67
79		18	11	7	61.11
80	September	5	4	1	80
81	November	10	8	2	80
2017, 82	January	11	11	0	100
83	March	20	15	5	75

API TES – Tank Entry Supervisors

YEAR	EXAM ADMINISTRATI ON	CANDI- DATES	PASS	FAIL	PASS %	PASS POINT (OUT OF 120)
2010	March	46	26	20	56.5	86
	September	82	47	35	57.3	86
2011	March	139	62	77	44.6	86
	September	121	47	74	38.8	86
2012	March	108	62	46	57.4	79
	September	105	67	38	63.8	79
2013	March	70	38	32	54.3	75
	September	51	28	23	54.9	75
2014	March	48	24	24	50	75
	July	23	10	13	43.5	75
	November	68	47	21	69.1	75
2015	March	27	12	15	44.4	75
	July	34	28	6	82.4	75
	November	27	19	8	70.4	76/74
2016	March	19	12	7	63.2	76/74
	July	22	13	9	59	76/74
	November	26	19	7	73.1	76/74
2017	March	16	12	4	75	76/74

API 936 - Refractory Personnel

Year	Exam administration	CANDI- DATES	PASS	FAIL	PASS %	PASS POINT (out of 75)
2010	March (2)	82	53	29	64.6	51
	May	9	8	1	89.0	51
	sept	77	53	24	68.8	51
2011	February	12	9	3	75	51
	June	91	58	33	63.7	51
	December	154	109	45	70.8	51
2012	June	117	87	30	74.4	51
	December	141	102	39	72.3	51
2013	June	103	70	33	68.0	51
	December	159	103	56	64.8	51
2014	April	57	34	23	59.6	51
	August	144	98	46	68.0	51
	December	118	78	40	66.1	51
2015	April	95	67	25	72.8	51
	August	99	74	25	74.7	51
	December	145	112	33	77.2	51
2016	April	89	67	22	75.3	51
	August	128	88	40	68.8	51
	December	134	99	35	73.9	51

API 571 - Corrosion and Materials Professional

Year	Exam administration	CANDIDATES	PASS	FAIL	PASS %	PASS POINT (out of 70)
2010	March	75	34	41	45.3	49
	September	84	43	41	51.2	49
2011	March	89	34	55	38.2	49
	September	86	27	59	31.4	49
2012	March	102	28	74	27.5	49
	September	127	37	90	29.1	49
2013	March	109	36	73	33.0	49
	September	193	69	124	35.8	49
2014	April	159	97	62	61.0	49
	August	174	74	100	42.5	49
	December	251	105	146	41.8	49
2015	April	197	85	112	43.1	49
	August	240	103	137	42.9	49
	December	258	112	146	43.4	49
2016	April	179	78	101	43.6	49
	August	191	86	105	45	49
	December	223	82	141	36.8	49
2017	April	217	72	145	33.2	49

API 580 - Risk Based Inspection Professional

Year	Exam administration	CANDIDATES	PASS	FAIL	PASS %	PASS POINT (out of 70)
2010	March	95	37	58	39.0	49
	September	137	55	82	40.2	49
2011	March	140	49	91	35.0	49
	September	147	59	88	40.1	49
2012	March	200	70	130	35.0	49
	September	244	90	154	39.7	49
2013	March	238	91	147	38.2	49
	September	319	138	181	43.3	49
2014	April	316	168	148	53.2	49
	August	300	159	141	53.0	49
	December	405	192	213	47.4	49
2015	April	357	178	179	49.9	49
	August	371	205	166	55.3	49
	December	404	205	199	50.7	49
2016	April	301	154	147	51.1	49
	August	274	88	181	32.1	49
	December	317	170	147	53.6	49

API 577 - Welding Inspection and Metallurgy Professional

Year	Exam administration	CANDIDATES	PASS	FAIL	PASS %	PASS POINT (out of 70)
2010	March	21	17	4	81.0	49
	September	21	12	9	57.1	49
2011	March	33	19	14	57.6	49
	September	29	14	15	48.3	49
2012	March	32	20	12	62.5	49
	September	24	15	9	62.5	49
2013	March	38	21	17	55.2	49
	September	54	36	18	66.7	49
2014	April	79	42	37	53.2	49
	August	67	29	38	43.3	49
	December	104	54	50	41.9	49
2015	April	93	51	42	54.8	49
	August	102	55	47	53.9	49
	December	91	52	39	57.1	49
2016	April	179	78	101	43.6	49
	August	54	27	27	50	49
	December	71	44	27	62	49
2017	April	38	21	17	55.3	49

API SIFE - Source Inspector Fixed Equipment

Year	Exam administration	CANDIDATES	PASS	FAIL	PASS %	PASS POINT (out of 100)
2013	November	60	33	27	55	70
2014	April	61	38	23	62.3	70
	August	109	58	51	53.2	70
	December	86	50	36	58.1	70
2015	April	98	56	42	57.1	70
	August	93	62	31	66.7	70
	December	228	171	57	75	70
2016	April	173	125	48	72.2	70
	August	236	154	82	65.3	70
	December	170	103	67	60.6	70
2017	March	60	41	19	68.3	70

API SIRE - Source Inspector Rotating Equipment

Year	Exam administration	CANDIDATES	PASS	FAIL	PASS %	PASS POINT (out of 100)
2015	December	9	4	5	44.4	70
2016	April	15	7	8	46.7	70
	August	25	6	19	24	70
	December	30	10	20	33.3	70
2017	March	22	7	15	31.8	70

API 1169 - Pipeline Inspector

Year	Exam administration	CANDIDATES	PASS	FAIL	PASS %	PASS POINT
2014	November	67	35	23	47.8	68
2015	March	76	41	35	53.9	68
	July	69	32	37	46.4	68
	November	102	58	44	56.9	68
2016	March	135	98	37	72.6	68
	June Special	47	46	1	97.9	68
	July	325	266	59	81.9	68

Miscellaneous Statistics

1. Number of registered individuals in the portal continues to rise. We stand at over 49,000 users.
2. Applicants are utilizing over 300 of Prometric's sites around the world.
3. Still have 1,014 inspectors who have not activated.