
Pipeline Inspector Certification – Fall 2015 Update

Table of Contents

Pipeline Inspector Certification Program Outline
Communications Subcommittee Update
API Subcommittee Update.....
Body of Knowledge Subcommittee Update
Certification Body Subcommittee Update.....



Pipeline Inspector Certification – Program Outline

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1. Introduction	4
1.1 Purpose	4
1.2 CEPA Steering Committees Guiding Principles	4
1.3 INGAA Foundation Relationship Diagram	5
2. Approach to Inspection	5
3. Proposed Model	7
3.1 General Pipeline Inspector Level	7
3.2 Specialty Level	8
3.3 Leadership roles (Chief and Senior)	8
4. Certification	8
4.1 Body of Knowledge (BOK)	8
4.2 Requirements for Certification	9
4.3 Period of Certification	10
4.4 Requirements for Recertification	10
4.5 Withdrawal of Certification	10
4.6 Responsibility of Employers	10
5. Annex A – Reference Material	11

1. Introduction

The Canadian pipeline industry currently lacks a standardized and universally accepted Pipeline Inspector Training and Certification program / process. “Competent & Qualified” is defined by each owner-operator and significant variances exist between the different companies resulting in potentially difficult transitions for inspectors from one job to the next. Of primary concern to the Steering Committee is the aging Pipeline Inspector work force. By creating a clear, concise certification process the committee hopes to revitalize the Pipeline Inspector role as a viable, professionally recognized career choice for young people.

1.1 PURPOSE

Develop and implement an industry wide Pipeline Inspector Certification (PIC) program that builds trust within all internal and external stakeholder groups. The program should ensure that stakeholders feel that by having trained, qualified and competent inspectors, pipelines are being constructed to operate safely.

Regular, consistent and comprehensive inspections are an important quality component of building, operating, and maintaining Natural Gas and Oil Pipeline Systems in Canada. The CEPA Foundation will work toward continuously improving inspection programs that utilize trained and competent inspectors who are focused on compliance to design, who have a heightened awareness of higher risk activities, and who are focused on delivering predictable results. These improved programs will contribute to the delivery of high quality products and services that help produce safe and reliable pipeline systems. Delivering and maintaining safe and reliable pipeline systems provides the oil and natural gas industry its social license to operate and therefore becomes our collective mission. Pipeline Operators, Construction Contractors, and Inspection Service Providers are partners in this mission and must be active participants in the development, execution, and maintenance of inspection programs.

1.2 CEPA STEERING COMMITTEES GUIDING PRINCIPLES

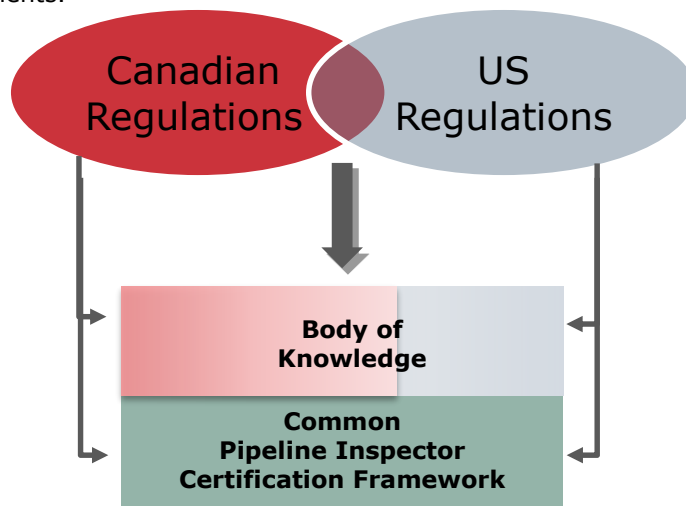
- Steering Committee participants will represent a wide range of stakeholders including operators, constructors, manufacturers, maintainers, inspectors, educators and regulators.
- The program will be vetted with key industry stakeholders at defined milestones to ensure industry needs are fully met leading to industry adoption.
- To ensure industry adoption and mitigate confusion, the program will not be in conflict with existing qualifications/certifications currently in use; rather it will complement or build on these existing programs.
- The program will be based on the concept that competence is derived from a combination of training, knowledge, and experience, and the demonstration of the application of these to perform specific tasks.
- The program will include a method of ongoing validation of competence.
- The program will be administered by a Certification Body independent of CEPA, CEPA Foundation and industry operators or manufacturers.
- The program will facilitate increased attractiveness and access to the pipeline inspector career path, while still ensuring that individuals are adequately trained and have demonstrated competence.

- In keeping with other CEPA Foundation initiatives the proposed program will be a recommendation for the industry.
- Work collaboratively with INGAA to develop a common framework and process to ensure consistency and alignment where possible.

1.3 INGAA FOUNDATION RELATIONSHIP DIAGRAM

Anchored by the common purpose of developing a certification program for pipeline construction inspectors, the CEPA and INGAA Foundation initiatives are irrefutably linked and ought to share common fundamentals. However, the disparities between the political, regulatory, and operating environments of the corresponding industries must be respected and accounted for in the development of these programs. As such, the CEPA and INGAA initiative teams will:

- Work collaboratively to develop a common framework and process to ensure consistency and alignment where possible;
- Openly share information to ensure alignment in foundational elements;
- Collaborate or work independently to establish country specific training and testing requirements.



2. Approach to Inspection

The following outlines the CEPA Foundation's approach to inspection:

1. Inspection shall be completed by trained, qualified and competent inspectors.

Owners, Contractors, and Inspection Service Providers share a common goal to provide qualified and competent personnel to verify that all projects are constructed in accordance with design requirements, regulatory requirements, company specifications, and industry best practices. To achieve consistency across the industry, a method of qualifying and training inspection personal

must be adopted. These programs shall include credential validation, inspector training, and company specific on-boarding.

2. Inspector credentials must be documented, verifiable and consistent.

Inspection should be delivered with a clear focus on quality and should rely on experienced and trained individuals to achieve stated requirements for safety and quality. Pipeline operating companies must have the ability to validate, document and demonstrate the knowledge and competency of the inspection personnel working on their project. Inspector competency levels need to be consistent throughout the industry.

3. Inspection is required to verify Project Compliance and to help manage risk.

As the quality of a given product or service is dependent upon more than just construction (i.e. design, material selection, etc.), the focus of inspection shall be compliance to design and regulatory requirements by means of a Quality Management System. Improvement in inspection throughout all phases of the project will increase quality and consistency in the integrity of our systems; however inspection alone will not allow us to reach our goals. Inspection should focus on compliance to requirements that produce a level of quality acceptable to meet all regulations. , Inspection should result in the information required to enable timely reviews and appropriate adjustments to verify compliance to the design of the components, fabrication, installation and/or maintenance of natural gas pipeline systems.

Higher consequence activities related to production, construction, operational or maintenance tasks should have the most comprehensive inspection processes and procedures. Programs should provide a predictable result.

Inspection programs should be developed to achieve high quality, repeatable, and predictable performance within the process. Defined inspection procedures and an inspection workforce appropriate to the size of the project, with clear accountabilities, will result in consistency and predictability in the outcomes of the product or service.

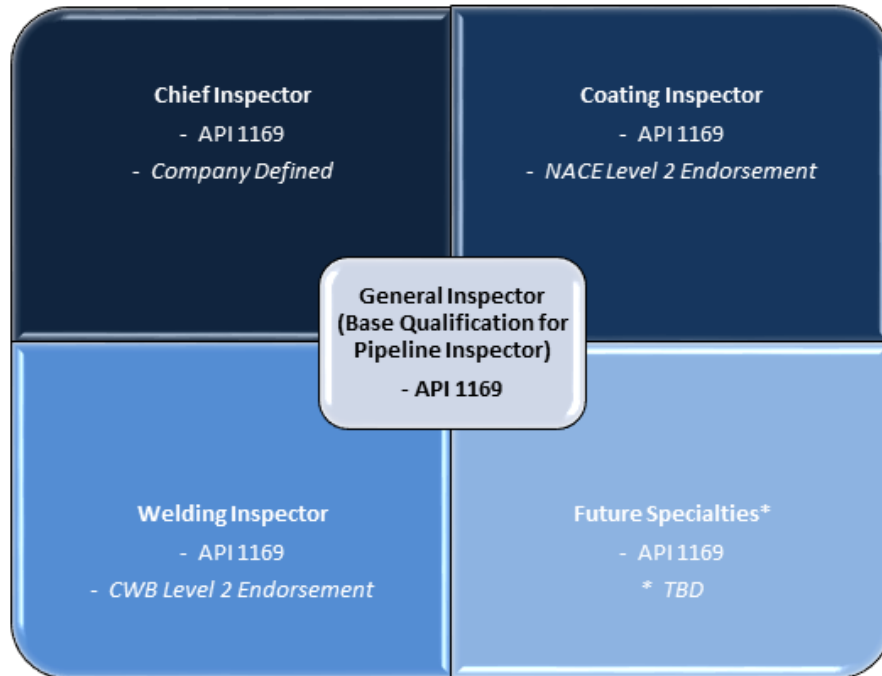
4. Inspection programs should include a continuous improvement cycle.

In order to continuously improve quality and ensure safety of workers and the general public, inspection programs must include an improvement cycle. Lessons learned from projects should be shared across the industry and company programs reviewed on a periodic cycle to capture improvements.

Inspection programs should have components of self-assessment and assessment by others with the lessons learned used to strengthen programs to achieve better results.

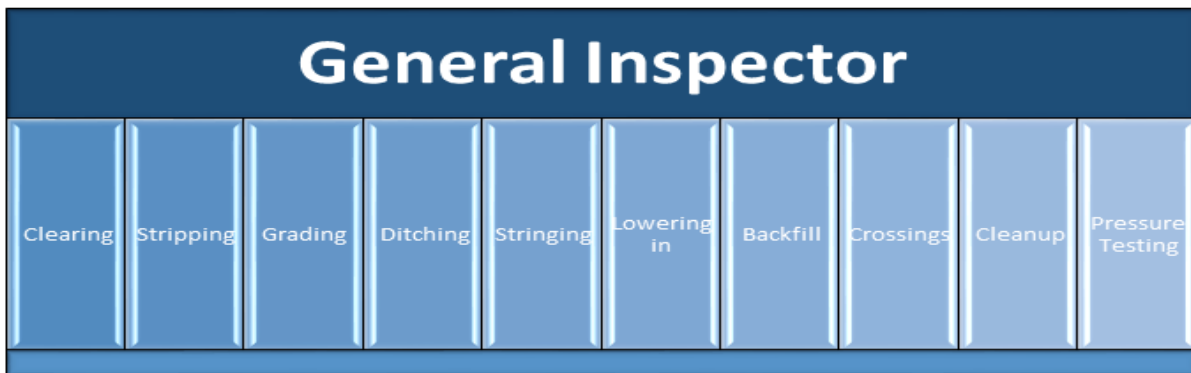
3. Proposed Model

The proposed model assumes that API 1169 is the foundation for all Inspector roles. API 1169 was developed in the same manner as other API Individual Certification Programs (510, 570, etc.).



3.1 GENERAL PIPELINE INSPECTOR LEVEL

The typical areas of responsibility and knowledge at the “General Level” are outlined below:



A General Pipeline Inspector is the basic level of proficiency required to adequately perform inspection duties at the work site. These roles are more general in nature and the specific duties required of each can be detailed during job specific onboarding. The knowledge gained becoming a

General Pipeline Inspector will largely focus on tying together the various aspects of pipeline construction and how they affect each other. No industry recognized certification exists at the task level (i.e. clearing or ditching). These roles are largely interchangeable on a project with a limited amount of on the job training required.

3.2 SPECIALTY LEVEL

In addition to that shown in the “General Pipeline Inspector” level, the additional areas of responsibility and knowledge at the “Specialty” level are outlined below.



Welding and coating were selected as the initial specialty level for two key reasons. The first is that welding and coating are the two field activities that garner the most inspection attention. Joining the pipe and then coating the welds are the essence of pipeline construction. The earth works are all conducted with an aim to preserve the integrity of the coating. Secondly, industry has recognized the importance of these activities and has already created very well established certification programs that meet the needs of the welding and coating communities.

Future specialties will be developed when there is an identified need. The CEPA Foundation may adopt an established certification program or may develop one in order to best serve the needs of the Pipeline Inspector Certification Program. Initial feedback has suggested that trenchless crossings and pressure testing may be next in line for consideration.

3.3 LEADERSHIP ROLES (CHIEF AND SENIOR)

Due to the variance in titles, hierarchy and responsibilities of “chief” or “senior” inspectors, the model does not provide specific requirements at this level. This shall be determined by the organization employing the individual and will not be part of this certification program / process.

4. Certification

4.1 BODY OF KNOWLEDGE (BOK)

The Body of Knowledge (BoK) will be developed by a sub-committee of the PIC program steering committee as an assurance that the content of the external certification continues to cover the expectations of CEPA Foundation members. By developing a BoK, the committee will identify gaps

in the certifications as well as opportunities for future certification development and/or expansion. The BoK will require external consultant support to develop based on company supplied material.

A unique challenge faced by the development group was that pipeline inspection is regulated in different countries by different Codes & Standards. As a result the current API 1169 BoK ad examination references Codes, Standards, and Regulations that are applicable only to the United States (ie. API 1104 vs CSA Z662 for welding). API has agreed to work with the CEPA committee to create a solution that is acceptable to the needs of the Canadian Pipeline industry.

API does not currently have any individual certification programs that are unique to a country or region. They are hesitant to implement a new certification that is exclusively for Canada as other countries will demand the same. API feels that the current program can be amended to satisfy all candidates, around the globe.

It appears the most likely solution is to make the current examination neutral of any geographic influence. Questions would be written in a manner that ensures all candidates would have the same BoK.

The candidates would be able to study the Canadian BoK and write the same exam as any international candidate. Another option that is being considered is creating an examination that is administered only in Canada. It would have a BoK that is relevant to Canada and questions based on that. The actual certification, however, would not differ from the international API 1169. This course of action would require a substantial amount of work changing questions to be based on Canadian standards.

The sub-committee assigned to work with API will evaluate the options and recommend the most suitable path forward to the larger committee. The timeline to complete this work is Q1 2016.

4.2 REQUIREMENTS FOR CERTIFICATION

Certification of individuals under the PIC program is available at two levels: General or Specialist. Candidates must meet all requirements for certification at the General level to be eligible for certification at the specialist level. Recognition of any combination of prior education, training or experience other than API 1169, CWB Level 2, or NACE Level 2 shall not be considered as equivalent to any stated requirement for certification under the PIC program.

General Level

To achieve certification at the General Level, candidates must demonstrate that they:

- Hold a current API 1169 certification
- Have the minimum industry experience required by API-1169 certification

Specialist Level

Candidates seeking certification at the Specialist level must have met or be able to meet the requirements for certification at the General level. Individuals may hold one or more of the defined areas of expertise at the Specialist level.

To achieve PIC at the Specialist-Welding Level, candidates must demonstrate that they:

- Hold a current CSA W178.2 (See Annex B) Level 2 visual welding inspection certification
- Hold a CSA Z662 (See Annex B) code endorsement under their CSA W178.2 certification
- Meet the minimum industry experience requirements required by CSA W178.2

To achieve PIC at the Specialist-Coating Level, candidates must demonstrate that they:

- Hold a current NACE Coating Inspector Level 2 inspector certification (See Annex B)
- Meet the minimum industry experience requirements required by NACE

The completion of any specific training programs is not a mandatory requirement for certification under the PIC program. However, where training is deemed mandatory by external certification bodies (e.g. API, CWB, NACE) to achieve certification under programs which are required under the PIC program, candidates shall complete training as defined by the certification bodies.

4.3 PERIOD OF CERTIFICATION

Once granted, certification shall be effective to the expiry date of the individual's API 1169 certification.

For individuals certified to the Specialist-Coating and/or the Specialist-Welding level, the document(s) of certification shall also note the expiry date of the supporting certifications (e.g. NACE, CSA W178.2).

Certification cycles of the supporting certification programs are as follows:

- API 1169: Initial certification: 3 years; recertification: renewal not yet defined
- CSA W178.2: Initial certification: 3 years; recertification: every 3 years thereafter
- NACE: Initial certification: 3 years; recertification: every 3 years thereafter

4.4 REQUIREMENTS FOR RECERTIFICATION

The recertification process will be the same as that for initial certification.

The certified individual shall be responsible to ensure that all requirements for recertification are met prior to the expiry date of their current certification.

4.5 WITHDRAWAL OF CERTIFICATION

Withdrawal of certification shall be governed by and in accordance with the terms and conditions of the applicable external certification body.

4.6 RESPONSIBILITY OF EMPLOYERS

The PIC program is not intended to replace an employer's final responsibility for the work or a supervisor's judgment of an individual's suitability to perform a given task.

5. Annex A – Reference Material

This document refers to the following programs and/or publications. In the case of publications, the reference shall be to the edition listed below, including all amendments published thereto:

API (American Petroleum Institute)

API 1169 Pipeline Inspector Certification program

Note: This program covers the certification of pipeline inspectors at a single level. It specifies the training, experience and examination requirements for pipeline inspectors related to and individual's knowledge in relevant codes and standards necessary to perform inspection activities during construction of new onshore pipeline.

CSA (Canadian Standards Association)

W178.2-14 Certification of welding inspectors

Note: This Standard covers the certification of visual welding inspectors at three certification levels. . It specifies the training, experience and examination requirements for visual welding inspectors, the responsibilities and technical functions associated with each level, and the relevant technical knowledge required at each level.

CSA Z662-11, Oil and gas pipeline systems

Note: This Standard covers the design, construction, operation, and maintenance of oil and gas industry pipeline systems that convey liquid hydrocarbons, including crude oil, multiphase fluids, condensate, liquid petroleum products, natural gas liquids, and liquefied petroleum gas; oilfield water; oilfield steam; carbon dioxide used in oilfield enhanced recovery schemes; or gas.

NACE (National Association of Corrosion Engineers)

NACE Coating Inspector Program (CIP)

Note: This program covers the certification of coating inspectors at three certification levels. It specifies the training, experience and examination requirements for coating inspectors, the responsibilities and technical functions associated with each level, and the relevant technical knowledge required at each level.

Communications – Fall Subcommittee Update

PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
September 2, 2015	Communications & Implementation	Andy Duncan

STATUS SUMMARY

Kick-off meeting for Communications & Implementation Subcommittee at CEPA offices.

- Identified goals of PIC for communications to Owner Companies.
- Discussed how Owner Companies may need to consider how PIC will influence their organization.
- Identify key messages for the different stakeholders – stakeholder engagement.
- Discussed visible timelines to completion and adoption. Committee will implement, along with CEPA Foundation adoption measurement criteria and tracking.
- Engagement of CEPA Foundation Communications committee to help with development.

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
One page communication doc for Owners	0	1-Oct-2015	Fall CEPA Meeting	Initial “heads up” document
Develop and maintain FAQ	50	15-Oct-2015	Fall CEPA Meeting	Partially complete from Spring CEPA meeting
Adoption measurement criteria	25	15-Nov-2015	Sept & Oct Committee Meetings	Draft template previously circulated
Adoption measurement tools				
Engage CEPA Foundation Communications committee	0	30-Sept-2015		
Communications package for stakeholders (owners, inspection, training & educational institutions...)	0	30-Nov-2015	Previous tasks and feedback. Confirmation of positive conclusion to API rewrite	

BUDGET OVERVIEW

CATEGORY	SPENT	% OF TOTAL	ON TRACK?	NOTES
None identified at this time				

RISK AND ISSUE HISTORY

ISSUE	ASSIGNED TO	DATE
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CONCLUSIONS/RECOMMENDATIONS

Kickoff meeting identified some of the key drivers for development of the communications, implementation, and educational components of the sub-committee. Sub-committee plans trail developments and outcomes of the API and Body of Knowledge subcommittees however, initial communications will be provided as the other sub-committees move forward in their respective phases of development.

API – Fall Subcommittee Update

PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
August 6, 2015	API 1169 Inspection Certification	Scott Pimm

STATUS SUMMARY

Held 1 of 3 scheduled workshops at Spectra Energy office in Calgary with API (Tina Brisikin, Holly Decker) in attendance to re-work the existing API 1169 exam questions in effort to come to common ground regarding reference material and question type between Canada and US. Approx. 10 – 12 SME’s were in attendance providing input on questions and references from Spectra, Enbridge, Trans Canada and Alliance. The group managed to go through all 188 questions referencing them to Canadian reference material (CSA, COSH, etc...) After the 1st workshop there was estimated 60 -70 questions that a common reference between Canada and US material could not be achieved and will be required to be rewrote.

The team is in the mid stages of the drive to one exam for both countries and the final decision will made by API at the end of the October workshop.

Next steps are to rewrite questions and review as a group at the Sept 28th – 30th workshop. Review of schedule and milestones will be discussed at the end of the 2nd workshop.

Further workshops are set for September 28th – 30th and October 20th – 22nd at Spectra Energy Office, Calgary AB.

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Review 188 Questions	100	Aug 6	Milestone	Completed during first 3 day workshop.
Re-write & Review 60 – 70 Questions	0	Sept 30 th	Milestone	Home work to attendees from first Workshop.
Final review of re-written questions.	0	Oct 22 nd	Milestone	

BUDGET OVERVIEW

CATEGORY	SPENT	% OF TOTAL	ON TRACK?	NOTES
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RISK AND ISSUE HISTORY

ISSUE	ASSIGNED TO	DATE
Acceptance of re-written question by U.S. SME's	Tina Briskin	TBA
Final approval of one common exam between US and Canada.	Tina Briskin	
Possibility of having to write one Canadian exam.	Tina Briskin	

CONCLUSIONS/RECOMMENDATIONS

First workshop went real well getting through more questions than expected. At this time we are on track and forecasting the exam ready to be challenged by the end of March 2016.

The supply of SME's from various companies has been challenging but the team will work to rally more specialists for the next work shop.

Body of Knowledge – Fall Subcommittee Update

PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
August 20, 2015	Inspector Certification – Body of Knowledge Development	David Montemurro

STATUS SUMMARY

A selection has been made for the use of a consultant to assist in the collection and compiling of the materials for the development of the Body of Knowledge. PBoK from Calgary is the selected consultant. Contracts are now in place with CEPA Foundation and INGAA Foundation so the work can proceed with the BOK subcommittee. We will use the same process for collection of materials in both Canada and the U.S.

A conference call was held in early August with API. We informed them of the approach we are taking on the development of materials to augment API 1169. We provided them with information on a draft table of contents for the development of the BOK that aligns well with the examination materials that API has in place. API has provided milestone steps to us that will assist in the joint development of the BOK and its use after completion for the updating the examination materials for CEPA Foundation and INGAA Foundation.

A broadcast message has been sent out to all member companies for both CEPA Foundation and INGAA Foundation requesting the collection of materials related to inspection processes and procedures that will be used in the development of the BOK.

A kick-off webinar and face to face meeting is currently being scheduled for the first week of September to launch the detailed plan for the development of the BOK through September, October and November. A detailed schedule of activities will be published and circulated more broadly after the kick-off meeting.

Candidates are being recruited for the subcommittee work under the CEPA Foundation committee (working committee already established under the INGAA Foundation) and will be used as subject matter experts once the compiled documents are ready for first review.

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Develop scope of work	100	06/01/2015	BOK development	
Kick off meeting for development of BOK	75	09/01/ 2015	Alignment of all parties	
Gather industry documents to be	0	10/01/2015	BOK development	

used for BOK

Develop a API plan to update the RP1169	0	10/01/2015	Alignment of API
Identify gaps in information and collect > 95% of information required	0	10/01/2015	
Develop initial draft of General Inspector BoK content	0	10/15/2015	Schedule -first review session
Final feedback from task group- end of November	0	11/30/2015	Schedule
Finalize Bok	0	12/15/2015	Schedule - allow time for API to integrate the details in the RP 1169

BUDGET OVERVIEW

CATEGORY	SPENT	% OF TOTAL	ON TRACK?	NOTES
BOK development	0	0	Yes	Anticipate costs to be \$30,000 to \$40,000

RISK AND ISSUE HISTORY

ISSUE	ASSIGNED TO	DATE
Lack of Industry representatives participation	All Foundation members	September 2015
Slow vetting of draft BOK	Subcommittee Lead	Ongoing
Other subcommittees delayed in their work based on BOK subcommittee not meeting schedule	All subcommittee leads	Ongoing

CONCLUSIONS/RECOMMENDATIONS

We are well on track for completion of the development of the BOK as per the agreed upon schedule and we have acceptance of API on its intended purpose. Next step will be to further flesh out the subcommittee working team members.

Certification Body– Fall Subcommittee Update

PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
June 11, 2015	Certification Body	Andy Duncan

STATUS SUMMARY

PROJECT NAME:	CEPA Pipeline Inspector Certification
ISSUE:	<p>The CEPA PIC committee has indicated an intention to include a certification body (CB) as part of the PIC program. The CB will be responsible for the following activities:</p> <ol style="list-style-type: none"> 1. Collection & Validation of applicants' certifications 2. Creation and administration of a Code of Ethics 3. Administration of a complaint & appeals process 4. Development and maintenance of an online database identifying certified inspectors 5. Day to day administration of the PIC program including continuous improvement, feedback from clients, and promotion <p>The INGAA Foundation PIC program has decided not to utilize a CB and the CEPA PIC group is revisiting their position</p>
OPPORTUNITY:	<p>Forgoing a CB presents several opportunities to the CEPA PIC program</p> <ol style="list-style-type: none"> 1) Eliminate an extra cost and schedule barrier to inspectors efforts to become certified 2) Reduce the timeframe to implement the CEPA PIC program by eliminating the need to create a partnership with an established CB <p>It is estimated that 90% of inspectors will only hold the API 1169 certification. Requiring these inspectors to obtain the API 1169 certification and then re-apply, without examination, to a second body will be viewed as a "cash-grab" and does not advance the efforts to improve inspection performance.</p>

Risk:	<p>The CEPA PIC group originally supported the creation of a CB for the reasons noted above in the background section. These will be lost with a CB.</p> <p>Notwithstanding this loss, each of the three certification bodies currently being proposed (API, CWB, and NACE) provide the five services listed. While dealing with each individually will be more onerous, 90% of inspectors will only be certified through one organization (API) and that will be the main point of contact for the industry.</p> <p>Each organization administers a Code of Conduct, disciplinary process, and an online database of certified inspectors.</p>
DECISION PROPOSED:	Proceed without a Certification Body for the CEPA PIC program

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Remove Cert Body requirement	100	06/11/2015		

BUDGET OVERVIEW

CATEGORY	SPENT	% OF TOTAL	ON TRACK?	NOTES
	0	0	Yes	

RISK AND ISSUE HISTORY

ISSUE

ASSIGNED TO

DATE

CONCLUSIONS/RECOMMENDATIONS

Proceed without a Certification Body for the CEPA PIC program - PASSED