



eBMP Training in STI,
New Jersey, USA



Firestop Instructional Training in STI,
New Jersey, USA



FM Global Research Campus Visit
in Rhode Island, USA



FM Global Laboratory Orientation
in Rhode Island, USA



Mafrq Hospital



Cleveland Clinic Abu Dhabi



Through Penetration, MEP Penetration,
Joint Firestop Application



Joints Firestop Application



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PICE-Qatar 2015 BODs finally sworn into office



The 2015 PICE-Qatar Board of Directors taking their oath of office.

The 2015 PICE-Qatar Board of Directors were finally sworn into office last 30 January 2015 in a ceremony held at the Wyndham

Grand Regency Hotel by Hon. Kristine F. Bautista, third Secretary and Vice-Consul of the Philippine Embassy in the State of Qatar.

PICE-Qatar supports ASEP in Seismic Summit



Engr. Ronald B. Nilo, PICE-Qatar President receives the plaque of appreciation in behalf of PICE-Qatar from ASEP President Engr. Carlos M. Villaraza, M. Eng'g, F. ASEP while Engr. Gilbert P. Lorenzano and Engr. Alden Cayaga, Chairman and Secretary of ASEP Qatar Regional Committee, respectively, looks on.

The PICE-Qatar chapter supported the Association of Structural Engineers (ASEP), Qatar Regional Committee in holding the first ever "Seismic Summit" in

Qatar on 13th and 20th of February 2015 at Oryx Rotana Hotel, Doha, Qatar.

(Continue on page 10)



His Excellency Benigno S. Aquino III —
President, Republic of the Philippines

Pres. Benigno Aquino III congratulates PICE-Qatar

President Benigno S. Aquino III congratulated the PICE-Qatar on its 8th Induction Ceremony and Oath-taking Ceremony of New Professional Civil Engineers and New Members held on January 30, 2015 at Wyndham Grand Regency Hotel in Doha, Qatar.

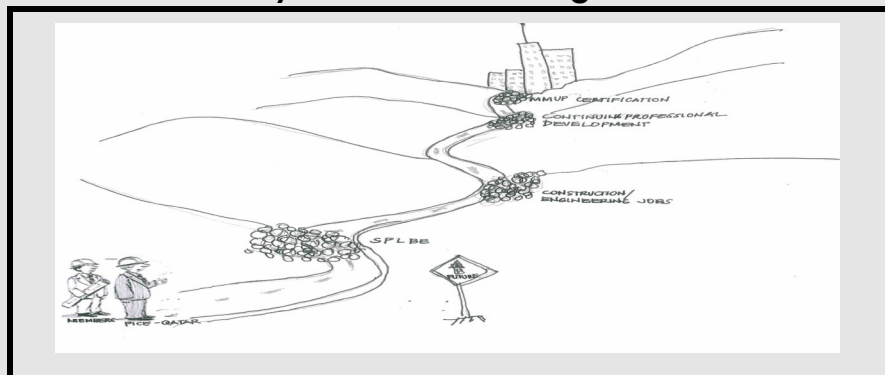
In his message dated 30 January 2015, the President cited the tireless efforts and contributions made by the organization and its members that enable our country, the Philippines, to become a valuable member of the international community.

He further stressed that with new officers and members taking their place, the organization and member's professional contributions will surely allow the country to reach greater heights of progress.

The full text of the President's message is published in page 3.

EDITORIAL

PICE - Qatar and the Filipino Civil Engineering Community faces the challenges head-on



The road to success for the Civil Engineering professionals are littered with challenges that need to be hurdled towards career and professional growth.

These challenges are largely felt by the general membership but surely have greater impact to the associate members.

One of these challenges is the requirement for MMUP Certification by the State of Qatar for the practice of Engineering Profession and the alleged "shortcomings" in the Filipino Engineers' professional qualification.

The MMUP certification requirements have triggered events that resulted with the Philippine Embassy and other concerned government agencies taking action with PICE-Qatar fully supporting the remediation effort.

First came to light is the educational system previously implemented in the Philippines for engineering that is characterized by a ten (10) year elementary plus high school and a five (5) year engineering degree for a total of 15 years. This is in contrast with our neighboring countries' that are implementing a 16-year educational system since the time immemorial. The Department of Education implemented the K+12 starting the school year 2015 only.

The PRC licenses have also become one the requirements for the MMUP examination affecting

most of our associate members that occupies positions at different government and private companies. This is in addition to those graduates of universities and colleges that are not recognized by Qatar's Supreme Council of Education.

Thankfully, PICE - Qatar is consistent in its support to the members through its program and close coordination with the Philippine Embassy. Here in Qatar, the organization has lined-up numerous Continuing Professional Education (CPE) through various seminars being held each month. The Special Professional Licensure Board Examination (SPLBE) given each year in GCC particularly in Qatar is the brain child of PICE long before the program was approved by former President Gloria M. Arroyo and implemented thereafter.

Consequent to that is the SPLBE review being conducted for the associate members every Fridays which is instrumental in producing new licensed Filipino Civil Engineers in Qatar, a rare opportunity for a working civil engineering graduate.

The spirit of camaraderie among its members is an important and necessary tool of spreading knowledge, support and assistance in job employment that is propagated through group e-mails.

Indeed, PICE-Qatar is proving itself relevant. Kudos to the past and current PICE-Qatar leaders..... We are proud to be members!

OFFICIAL NEWSLETTER OF THE PHILIPPINE INSTITUTE OF CIVIL ENGINEERS-QATAR CHAPTER

Engr. Emilio M. Manalo—Editor-In-Chief

Engr. Shiela L. Medel—Editor

Engr. Alfonso Belito C. Betita—Editor

Engr. Jeffrey P. Cimagala—Editor

Engr. Elvin D. Fajutagana—Editor

Engr. Ronald Nilo—Adviser

Engr. Roy Baquiran—Adviser

EDITOR'S CUT

The "Value Engineering" in Design

by Engr. Emil Manalo

Value Engineering brings cost efficiency into the design through structural design modifications and selection of materials to be used in the construction which do not affect the integrity of the final product or can even improve the output of the characteristics of the final product. It has to be noted that when it comes to Value Engineering, when the Client's desire for less cost effective design and/or choice of materials is preferred, the Client holds the right to overrule any suggestions and/or decisions made by the Design Consultant and Programme Management Consultant if there is. Quality Assurance involvement is to verify that Value Engineering has been addressed and implemented within the design to the best interest of the Client.

SAVE THE DATE

MARCH 13, 2015, 8:00AM TO 5:00PM, ORYX ROTANA HOTEL, AIRPORT ROAD, DOHA, QATAR

RAIL TUNNELS - an introduction to construction and operational fire and life safety issues
How to best protect yourself from legal troubles when a disaster occurs and you are the engineer?

COURSE OUTLINE:

- What is a tunnel?
- Whats all the fuss about?

- what is underground
- update on geology
- types of construction
- thermal radiation
- convection
- back layering
- ventilation types
- gas production
- egress issues
- safety concepts
- place of comparative safety,
- tenability issues
- self rescue
- structural failure
- catastrophic failures
- Introduction to NFPA 130 (Rail Tunnels)
- Introduction to NFPA 502 (Road Tunnels and Bridges)

Case Studies:

1. Nicol Highway (Catastrophic fatal collapse of temporary works)
2. Daegu Metro, Arson Attack (200+ fatalities)
3. City Link Road Tunnel (Fatal fires and explosions)
4. Sydney Harbour Tunnel (Latest research on human behavior)

Exercise:

How to best protect yourself from legal troubles when a disaster occurs and you are the engineer?

OUR RESOURCE SPEAKER:

PROFESSOR ARNOLD DIX

Professor Dix is one of the world's leading experts in protecting sovereign and corporate entities from operational risk in life, complex property and environment. Professor Dix is both an accomplished lawyer and scientist, a former Professor of Engineering and currently a Professor in the disaster team of the School of Medicine, University of Western Sydney (UWS), Australia. He is the CEO and founded ALARP more than a decade ago, with ALARP companies in Europe (London), Asia (Hong Kong, China), Oceania (Melbourne) and now Qatar (2013). His legal career includes being a partner at DLA Piper London and a trial attorney (Barrister). He was appointed by the USA too two fire and life safety committees of the United States National Fire Protection Association "NFPA", chairs the legal group of the International Tunneling Association (United Nations Affiliated), represents a country's safety interests on the Permanent International Association of Road Congresses "PIARC", and served as a Special Expert to the European Parliamentary inquiry on tunnel fire safety. He is a member of Japan's Society for Social Management Systems "SSMS". He sits on the International Tunnel Insurance Group "ITIG" (re-insurance) for major sub surface infrastructure for the world as well as investigating disasters as a special expert worldwide. Professor Dix is also a prolific author on safety and the recipient of numerous international awards for his work.

www.arnolddix.com
 www.alarp.com

SMDC

The good guys!

For inquiries, please call:

Joseph Sangalang - 33.72.48.04 - joseph.sangalang@smpropertysales.com

Ryan Arvin Tanada - 66.70.13.51 - ryan.tanada@smpropertysales.com

Sporting Events

PICE-Qatar Chapter Inter-Color Basketball League (5th Season) slated on March 6, 2015

The Heat is on!!!

The excitement is in the air as different teams started to flex their muscles in preparation for the Basketball Tournament that is slated to open on March 6, 2015 at the Al Wakra Secondary School for Boys' Gymnasium at 7:00 AM as announced by Engineer Medel Dalida—Chairman, Sports Committee and Immediate Past President, Engr. Noel T. Jumawan - Chairman, Basketball Committee.

This sports event is one of the many sporting activities that were lined-up in preparation of the upcoming PICE - Qatar Founder's Day.

With the primary objective of promoting health consciousness through recreational activities, the aim of the event also includes promoting social engagement and acquaintance within the PICE Qatar Chapter family and camaraderie through the true spirit of sportsmanship. A total of six teams will vie for this year's championship crown.

The Sports Committee has released the tournament's guidelines which was published and circulated through the PICE-Qatar group's e-mail.

The six (6) teams that will compete in the basketball tourney are the red, blue, yellow, maroon, white

and black teams that represent the combined colors of the flags of the States of Qatar and the Philippines.

Engr. Medel Dalida informed "The Tektōn" that the draw for schedules of the competition will be held during the opening ceremonies.

So brace yourself for the excitement and adrenalin pumping sports activities. This is just the beginning as the summer sporting season is coming in at our doorstep. Everybody is encouraged to participate and contribute to this event's success. Remember that your favorite team need your cheers of encouragement!!!!

Upcoming Seminar on Rail Tunnels announced

PICE-Qatar recently announced the Seminar on Rail Tunnels to be held on March 13, 2015—Friday, (See poster on page 15) from 8:00 AM to 5:00 PM at Oryx Rotana Hotel.

Dubbed as "Rail Tunnels—an introduction to construction and operational fire and life safety issues", the seminar is designed to give us Civil Engineers a peek into the world of underground

construction—considered as special structures in Civil Engineering Works.

Prof. Arnold Dix, the resource speaker is an Australian Expert Lawyer, Scientist and Engineering Professor, Chief Executive Officer and founder of ALARP.

Aside from topics on underground construction and safety, Prof. Dix will present case studies involving incidents on Nicol Highway, Daego Metro, City Link Road Tunnel and Sydney harbor Tunnel.

This seminar is somehow related to the just concluded ASEP seminar on similar tunneling topics but focuses on practical applications, actual incidents, fire and life safety, as well as legal issues.

Meanwhile, an on-line survey is being conducted by PICE-Qatar on its plan to conduct Seminar on Surveying. Interested members may contact the Chairperson for Continuing Professional Advancement—Engr. Jennit Rufino at 70322578 for more details.



"The Tektōn" copies being distributed during the BOD Induction Ceremonies.

"The Tektōn" now officially the PICE - Qatar Newsletter

"The Tektōn" was finally ratified as the official newsletter of PICE-Qatar after President Ronald Nilo officially presented the same to the general membership during the Induction of the Board of Directors on 30 January 2015 and was overwhelmingly approved.

The use of the name "Tektōn" is considered an upgrade of the

generic name "Builders" which was previously presented to the Board during the joint BOD meeting on 05 December 2014. Tektōn is the Greek term for Builder.

"The Tektōn" staffers are elated and welcome this development with great enthusiasm as the same acceptance by the general membership will inspire them to strive harder for excellence in this voluntary work.

Message from the President of the Philippines



MALACAÑAN PALACE
MANILA

MESSAGE

My warmest greetings to the **Philippine Institute of Civil Engineers-Qatar Chapter** as you hold your **8th PICE-Qatar Induction Ceremony of 2015 Board of Directors and Oath-Taking Ceremony of New Professional Civil Engineers and New Members**.

The Philippines has become a valuable member of the international community thanks to the tireless efforts of our kababayans whose hard work and determination define our people's character. Your professional contributions will surely allow us to reach greater heights of progress as your officers and new members take their place. May they embody the highest ideals of your institution, bring new innovations into your discipline, and be among the shapers of a bright future for Filipinos.

May your members embody excellence in your field, and may integrity and accountability be the bedrock upon which you help us build a sustainable and progressive society, one where each individual's efforts is counted upon to foster productivity, sound business, and inclusive growth.

I wish you a meaningful ceremony.


BENIGNO S. AQUINO III

MANILA
30 January 2015

THE PRESIDENT OF THE PHILIPPINES

President's Corner



My Dear Fellow Members:

I would like to thank you for your full support and cooperation during the 8th PICE-Qatar Induction of Officers and Oath Taking of New Civil Engineers & New Members held last January 30, 2015. Our organization is growing really fast, with 112 new members in the first 2 months of 2015. Congratulations to the 2015 Board of Directors, the new Civil Engineers and new PICE - Qatar Members!

Thank you also for the opportunity to present to you officially during our major event, our newsletter – The Tektōn, and your overwhelming acceptance of it as our official newsletter.

We are entering our 3rd month in 2015, and for the month of March, we have the following major activities happening:

- Start of the PICE-Qatar Sports Festival on March 6, 2015 with the Inter-Color Basketball League which will kick-off at Al Wakrah Independent Secondary School for Boys. The 2-month basketball tournament will culminate on May 22, 2015 in celebration of the 8th

Founding Anniversary of PICE-Qatar Chapter where different sports events are expected to be participated in by all PICE-Qatar members and their families including bowling, table football, darts, table tennis, billiards and other sporting events.

- Seminar on Rail Tunnels on March 13, 2015 to be conducted by Professor Arnold Dix, an Australian Expert Lawyer, Scientist and Engineering Professor, one of the world's leading expert in protecting sovereign and corporate entities from operational risk in life, complex property and environment. The seminar will include an introduction to construction and operational fire and life safety issues but what would be interesting to engineers is the exercise at the end of the seminar on *how to best protect yourself from legal troubles when a disaster occurs and you are the engineer*. Please see the full details of this seminar in a dedicated page in this issue of Tektōn.

Thank you also for the feedbacks we are receiving from the general membership with regards to seminars and trainings, one of which says -

"To invite an expert visitor or guest lecturer from another nationality who are also well versed on their fields once or twice a year. This may cost more but maybe we could learn something different and new that can also be useful in our chosen careers."

The seminar on March 13, 2015 might be the answer to this request. Fortunately, the cost of this seminar would still be the same as our regular seminars.

We will continue to address the

AS OF 28 FEBRUARY 2015:	
New members	112
Reactivated members (inactive for 5 years or more)	18
LM applicants	9
Specialist applicants	2
ACPER applicants	0
APEC Engineer applicants	1
ASEAN Engineer applicants	2
SPLBE reviewees	85
Seminars	2
Seminar attendance	107
Weekly meet-up attendance (every Wednesday at FCC)	220

needs of our members although we are fully aware that it is impossible to please everyone at the same time. Rest assured that we will exercise due diligence and sound judgment with the prime needs of the majority of the members in mind.

As we sustain our journey together, I am continually amazed by the dedication, perseverance and commitment of the men and women of PICE - Qatar – taking charge of their assigned tasks, owning responsibilities and challenging themselves to perform their duties to the best of their abilities.

We will continue to work hand in hand to achieve our goals and objectives. There are challenges along the way, both internal and external. But I believe that together we will be able to surpass these challenges.

After all, without challenge, there is no achievement.

Always proud to be a member,

Ronald Nilo

The Quality

Quality does not just pop out from nowhere. You have to do (often relentlessly) what it takes to finish the project without deviating from stakeholders' requirements. To create quality, it requires planning, providing assurance, monitoring, controlling and devising a strategy to continuously look for ways to make things better. When these processes and its relationships are defined and executed in a systematic manner, you are actually performing a quality management. Let us examine each process that comes under quality management.

Quality Planning

The first step of this process is to identify requirements for the quality of the project, applicable standards and industry practices as inputs to the development of standards and practices specific to the project. Planning works also include balancing quality with: scope (Are quality related works appropriate and not more than what is being required by the project?), cost (Does benefit outweigh the cost of quality related activities?), time (When is the right time within the

project duration the quality activities must be performed?), resources (Is the quality team competent enough to do the job? What are the necessary skills, tools and equipment?), and other else.

The output of quality planning process is the *project quality management plan* otherwise known as *quality plan*, *project quality assurance plan*, or simply *project quality plan*. Whatever you call it, it should at least comprise the means on how to perform quality assurance, control and improvement, inspection and test plan, roles and responsibilities, metrics and acceptance criteria. This amazing tool will be your guide on how you go about with the project quality.

Quality Assurance

Quality assurance process is planned and executed. It focuses on the works being done on the project. The aim is to provide confidence that the project team is following the processes used to create project deliverables defined in the project quality plan.

Quality Control

Similarly, quality control process is also planned and executed but focuses on measuring the quality of project deliverables, whether they are correct and meet the expected level of quality.

Quality Improvement

Quality improvement process is a set of planned and systematic activities which continuously search practices that improve performance. It should take place whenever opportunity exists within the project life cycle.

QA vs. QC

These two processes are often used interchangeably but one should know that quality assurance is not quality control. QA is process oriented while QC is deliverable oriented. Quality assurance team's job is to assure company and its clients that project standards, processes, and policies are being followed as planned, mostly by way of quality audits or process analysis. Quality control team, on the other hand, is formed to carry out quality operational activities such as inspections, testing, etc. to identify, monitor and control defects then come up with appropriate remedy to maintain quality of project deliverables.

Why many organizations and even engineers confuse QA with QC? That will be a good topic to talk about in the next *Tektōn* issue. Stay tuned.

Mark Lepiten is a practicing quality professional who champions quality initiatives. He is a registered Civil Engineer, a Project Management Professional (PMP) and a certified Manager of Quality/Organizational Excellence (CMQ/OE). He can be reached through qualityaficiona-

PICE-Qatar Family

March 23

AFABLE, BEVERLY G.
MANLAPAZ, JOHN ALLAN G.
MENDOZA, REYMUNDO D.
ROSAL, MARVIN B.
TORREFRANCA, DICK T.

March 24

LORENZO, AL F.
MOTEL, EMMANUEL Jr. B.
VARQUEZ, JONATHAN M.

March 25

ASGAR, MALIK A.
BAUTISTA, ERIC B.
MARBELLA, ILDEFONSO V.
RANIAI, MOHAMMAD HAMZA A.

March 26

BALANE, MONCHING P.
CRISOLOGO, EDGAR R.
CUENCA, JOVITO B.
GUERRA, EDGAR C.
MOLVE, DJENNY L.
MORAL, ARNEL D.
REYNO, GEORGENE R.
SARCOS, ANICETO B.
SUMALAGUE, JAIME JR. B.
SY, MARVIN JOSEPH S.
TULAY, GERARDO G.

March 27

MARI, CRISANTINE N.

MUYA, JESUS D.
VALLEGA, HONEYLEEN B.
YBAÑEZ, RAY GARRET B.

March 28

ALVIAR, RICKY JOHN NEIL V.
LADEMORA, MARY JEAN T.
LAGO, RODELIO C.
MARCERA, MARCHAN R.
VELASCO, MARIO D.

March 29

CLAVERIA, MELVIN M.
DAET, IVAN D.
ESTOLANO, RYAN JAY M.
FERRER, GALILEO M.
TIGLAO, BENIGNO A.

March 30

AGUINALDO, DEMETRIO C.
CATENZA, NELSON Y.
PARAN, ROSEBELLE
SOLITO, RAMEL S.

March 31

BAYBAYAN, RIZA C.
MANGALINO, JEFFREY A.
MANZA, MARVIN C.

Let yourself free and enjoy your Birthday, because it's something that comes once in a year.

Note:

For those members who are celebrating this month which are not listed above, my apology because we are now updating the records but we wish you another year of blessings. You're older today than yesterday but younger than tomorrow, Happy Birthday!

For errors and corrections relating to the facts above, kindly address your concern to:

BELINDA E. DELA CRUZ

COME Chairman (2015)
Committee on Membership
PICE - Qatar Chapter

PICE-Qatar Family would like to convey our warmest greetings to the following, who are celebrating their Birthdays this month of **MARCH!!!**

MARCH

- *Attractive personality
- * Affectionate
- * Shy and reserved
- * Secretive
- * Naturally honest, generous and sympathetic
- * Loves peace and serenity
- * Sensitive to others
- * Loves to serve others
- * Not easily angered
- * Trustworthy
- * Appreciative and returns kindness
- * Observant and assess others
- * Revengeful
- * Loves to dream and fantasize
- * Loves traveling
- * Loves attention
- * Loves home decors
- * Musically talented
- * Loves special things
- * Moody

March Birth stone: Aquamarine; Color - Pale Blue

God gave a gift to the world when you were born; a person who loves and cares, who sees a person's need and fills it, who encourages and lifts people up, who spends energy on others rather than himself, who touches each life he enters & makes a difference in the world. May the love you have shown to others return to you multiplied.

Blowing out another candle should mean that you have lived another year with joy and you've made this world a better place. Make every day of your life and every candle count. Have a delightful birthday!

A birthday is the most special day in one's life. Enjoy it to the fullest.

May this day bring to you all things that make you smile. Happy Birthday!

Your best years are still ahead of you. Birthdays are filled with yesterday's memories, today's joys, and tomorrow's dreams. You'll always be forever young.

Count the age, not the wrinkles you have. Count the blessings and the wonderful experience not the mistakes you have made.

Live it up and don't worry about being good!! You get to do whatever you want, it's your day!!! HAPPY BIRTHDAY!!!

- March 1**
- CAGAS, NICEFORO B.
 - HADJIALI, YASSER T.
 - LOPEZ, ROMMEL J.
 - PAGLINAWAN, FERNANDO Jr. M.
 - SISON, MARVIN B.
 - TAMPELIC, RAPHAEL CHARLTON R.
 - TUNGLAPAN, GEOFFREY C.

- March 2**
- JUMALON, MARLON B.
 - PANGANIBAN, JOSE A.
 - PARUNGAO, RONNIE C.

- SALES, CARLOS Jr. I.
- SANCHEZ, DAVE G.
- UYANGUREN, TEODULO L.

- March 3**
- ABDURASID, SALAD H.
 - CUNANAN, JOEDON B.
 - MARTINEZ, ERLY S.
 - MULA, ERNIE M.
 - PAGAR, JOSEPH V.
 - PANGANIBAN, JEFF B.
 - PASCUAL, NOEL O.
 - ORO, ALEX R.
 - REBLORA, HONESTO
 - SORIANO, MARCEL G.

- March 4**
- DORONILA, DANTE
 - MAHINAY, ERVIN F.
 - MASUKAT, SOTTO P.
 - MONTENEGRO, EDMUND C.
 - PAPASIN, MANUEL F.
 - PAULIN, GYRLOU A.

- March 5**
- CANAM, ADELFA B.
 - DOLLENTE, GOERGE Jr. A.
 - FUGGAN, ROMEO N.
 - HEBRON, EDSSEL B.
 - MAGISTRADO, EDILBERTO A.
 - PALMES, EARL WARREN D.
 - ROMERO, RONALD L.
 - VILLEGAS, BERNARDO Jr. P.

- March 6**
- ALMIRA, OLIGARIO EDGAR
 - CHAN, DANILO L.
 - GUJILDE, URIEL A.
 - LAGRADA, REYNALDO G.
 - ORONGAN, LEONORLIZA R.
 - PADAYAO, MALCOLM B.

- March 7**
- ANACIO, JAIME JIMMY B.
 - ANDONG, MOBARAK D.
 - ARCOS, ALLAN DAVE B.
 - ASUNCION, ALBERT JAYSON S.
 - DELA CRUZ, VINCENT LOUIS N.
 - DELICANO, RANDOLPH R.
 - GONZALES, JEROME P.
 - LORESTO, RAMIL D.
 - NAEL, ADRIAN C.
 - PAGADUAN, FROILAND C.
 - PAGULAYAN, ALFREDO M.
 - POLANCOS, REMERSON V.

- March 8**
- CAACBAY, DARYL D.
 - ESOLANA, ROY B.
 - MAGALLANO, EUGENIO Jr. D.
 - MARIANO, EDWIN M.
 - PEDIGLORIA, JEFFREY D.
 - SORIANO, SHERWIN T.

- March 9**
- LOBRIGO, ERWIN N.
 - MAURING, CHRISTIAN A.
 - MORENO, BIENVENIDO Jr. A.

- March 10**
- COBRADOR, GOLEM R.
 - DANIEL, ARIEL D.
 - HULAR, LARRY G.
 - JAHULLA, ADRIAN A.
 - LOLONG, SELVINO M.
 - MARZAN, CARLITO S.
 - RIZAL, MELITON M.
 - ZABALA, BENJAMIN Jr. S.

- March 11**
- CABANG, YVONNE O.
 - ESTRADA, BENJIE M.
 - GONZALES, AUSTIN L.
 - REVILLOSA, MARIA MICHELLE A.

- March 12**
- BUMAGAT, ROMEL M.

- CAYANAN, GREGORIO C.
- CORTES, CONNIE JOY V.
- POSADAS, CARLO ANGELO P.
- SANTELICES, PATRICK V.
- SOLAYAO, EDITO M.

- March 13**
- ALCANO, JOSELITO S.
 - FORTUNATO, MARNICA ANA P.
 - GUINCHOMA, ALDIEH F.
 - MANALO, GILBERT M.
 - ORQUIA, ALAN N.
 - PEREDES, VICENTE C. Jr.
 - PEREZ, ISAGANI Jr. A.
 - RODELAS, RONALD B.
 - YUSOPH, SALMAN S.

- March 14**
- BAUTISTA, MICHAEL D.
 - CANDELARIA, FERDINAND S.

- March 15**
- CALABIT, RAMON JR. A.
 - CANO, KRISTINE F.
 - DALUMA, KARDAWI A.
 - LAYOS, MICHAEL G.
 - MANGAMPO, FLORANTE F.
 - SANTIAGO, ROBERTO
 - ZURBANO, WILFREDO J.

- March 16**
- SIMSIM, MERNILLE L.

- March 17**
- AVERILLA, HAROLD D.
 - CALANNO, JEFFERSON D.
 - CORUÑA, ROBERTO T.
 - LAGRAZON, RANILITO U.
 - PEDROSO-DOLOT, HAIDEE M.
 - POGADO, RYAN C.

- March 18**
- BAS, JOHN HENRY S.
 - FERRER, NATHALIE T.
 - H GAPOR, AISAH S.
 - MARTE, MARZON R.
 - MORATA, SALVADOR G.
 - ROMERO, RONALD M.
 - SONALAN, ZANDER M.
 - TABAO, ABDULNASSER A.

- March 19**
- ALVAREZ, JOSEPH DIXON S.
 - BUGAYONG, ALLAN C.
 - CAOILE, LEONARDO B.
 - CORDOVEZ, JENNY T.
 - ROSALES III, RICARDO G.
 - TOMAS, JOSEPH D.

- March 20**
- CARTAGENA, ENRIQUE F.
 - DUMAT-OL, EUGENIO I.
 - FERRER, ERNIE P.
 - JUAN, ALEXANDER I.
 - LILIO, JOENARD A.
 - MAGDOSA, ELMER M.

- March 21**
- BANGON, KAREN MAE F.
 - CAPALAR, JAMES P.
 - ESLAO, ERWIN C.
 - POMIDA, LEIF ZADIG N.
 - SANTOS, RAFFY B.
 - TAPEL, MARGARITA S.
 - VIBARES, RANDY S.

- March 22**
- AMILAO, WILSON P.
 - GUMAPAC, SHERWIN A.
 - KANAKAN, FAHAD A.
 - OCHADA, ARCHIE A.

(continue on page 13)

THE ENGINEER’S GUIDE

By Jeffrey P Cimagala

Article No 3 Issue No 3 2015

Basic Development Length of Deformed Rebars in Tension: Reinforcement bars (rebars) when used with concrete in structures provide the ductility requirements needed to perform its intended purpose. During the design stage, all assumptions and parameters must be fully determined as per accepted Design Codes and Project Specifications. Accordingly, the type of rebars to be used must also be established as a result of the analysis and design works undertaken. For designers, the detailing of rebars usually poses the majority of the post-analysis and design works prior to execution.

In the foregoing reason – this article will focus on the basic principles of detailing, in particular, as to how rebars derive their development lengths (shown on Figure 1) as an integral part of a reinforced concrete structural element. In addition, a comparison of two of the most common Design Codes will be presented, namely, the American Concrete Institute Code ACI 318-08 and the British Standard Code BS 81 10.

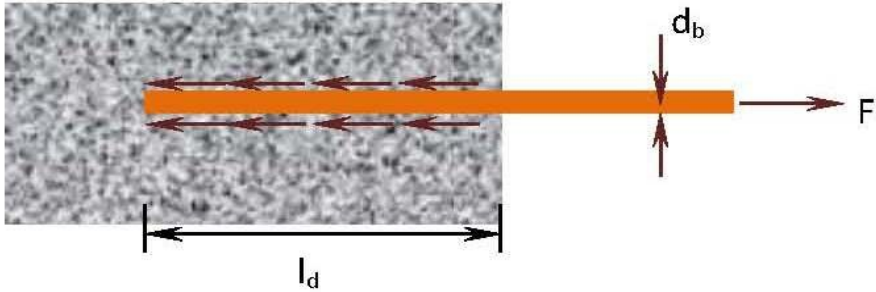


Figure 1: Anchorage Bond

Theoretical Material Properties and Structural Geometry:

Concrete strength, f_c'/f_{cu}	=	C30/37 (normal-weight concrete)
Yield strength, f_y	=	460MPa (uncoated)
Rebar diameter, d_b	=	25mm (top bars)
Spacing, S	=	150mm
Assumed section thickness, t	=	500mm
Tension concrete cover, cc	=	50mm
Side cover	=	40mm

(continue on page 6)

The Quality Management Job

By: Engr. Mark Lepiten

Previously, we talked about quality quality is a difficult task that it concern. That's where the quality and identified those responsible for eventually becomes nobody's job. team comes into the picture. What making it happen. If I remember it We know, as briefly discussed in the are these efforts, how are they right, why everyone is responsible for previous article that the quality related and why are they necessary quality was also explained. But hold team's main role is to coordinate will be discussed here. on! If all of us are, why need a the overall quality efforts – definitely (continue on page 13) quality team? a huge effort. Confirming everyone is doing his part correctly is another

The Engineers.....

ACI 318M-08 Parameters (12.2.4)

c	=	min (side cover, db/2 + cover over the bar, 1/2 S)
		min [40, 25/2+50=62.5, ½(150) = 75], use 40mm
$K_{tr} = \frac{A_{tr}f_{yt}}{10sn}$	=	represents the contribution of confining reinforcement across potential splitting planes
		Ktr may be 0.0 as a design simplification even if transverse reinforcement is present
$\frac{c + K_{tr}}{d_b} < 2.50$		$\frac{c + K_{tr}}{d_b} = \frac{40 + 0.0}{25} = 1.60 < 2.50; OK$
α	=	traditional reinforcement location factor to reflect the adverse effects of the top reinforcement casting position
		a. Use 1.30 for horizontal reinforcement so placed that more than 300mm fresh concrete is cast in the member below the length or splice b. Otherwise, use 1.0
β	=	coating factor reflecting the effects of epoxy coating
		a. Use 1.50 for epoxy-coated bars with cover less than 3db (75mm), or clear spacing less than 6db (900mm) b. Use 1.20 for all other epoxy-coated bars c. Use 1.0 for uncoated reinforcements
α β	=	Need not be greater than 1.70.
γ	=	Reinforcement size factor that reflects the more favorable performance of smaller diameter reinforcement
		a. Use 0.80 for No 19 and smaller bars b. Use 1.00 for No 22 and larger bars
λ	=	Factor reflecting the lower tensile strength of lightweight concrete and the resulting reduction of the splitting resistance
		a. Use 1.30 for lightweight aggregate concrete $\lambda = \frac{\sqrt{f_c'}}{1.8f_{ct}} > 1.0$ b. If f _{ct} is given: c. Use 1.0 for normal-weight concrete

Reference Section	ACI 318M – 02	Calculations	Remarks
12.2	Development of deformed bars in tension		For 25mm diameter bars
12.2.2	<div><div>Clear spacing of bars being developed or spliced not less than d_b, clear cover not less than d_b, and stirrups or ties throughout f_d not less than the code minimum</div><div>or</div><div>Clear spacing of bars being developed or spliced not less than $2d_b$ and clear cover not less than d_b</div><div>Other cases</div></div> <div><div>No. 19 and smaller bars and deformed wires</div><div>$\left(\frac{12f_y\alpha\beta\lambda}{25\sqrt{f_c'}}\right)d_b$</div><div>$\left(\frac{18f_y\alpha\beta\lambda}{25\sqrt{f_c'}}\right)d_b$</div></div> <div><div>No. 22 and larger bars</div><div>$\left(\frac{3f_y\alpha\beta\lambda}{5\sqrt{f_c'}}\right)d_b$</div><div>$\left(\frac{9f_y\alpha\beta\lambda}{10\sqrt{f_c'}}\right)d_b$</div></div>	$l_d = \frac{3f_y\alpha\beta\gamma\lambda}{5\sqrt{f_c'}}$ $l_d = \frac{3(460)(1.30)(1)(1)(1)}{5\sqrt{30}}d_b$ $l_d = 65.5d_b = 1,640mm$	For No 19 and smaller bars, a factor of γ =0.80 shall be applied.
12.2.3	$\ell_d = \left(\frac{9}{10} \frac{f_y}{\sqrt{f_c'}} \frac{\alpha\beta\gamma\lambda}{(c + K_{tr})/d_b}\right)d_b \quad (12-1)$ <p>in which the term $(c + K_{tr})/d_b$ shall not be taken greater than 2.5.</p>	$l_d = \left(\frac{9}{10} \frac{f_y}{\sqrt{f_c'}} \frac{\alpha\beta\gamma\lambda}{c + K_{tr}}\right)d_b$ $l_d = \left[\frac{9}{10} \frac{460}{\sqrt{30}} \frac{(1.30)(1)(1)(1)}{1.60}\right]d_b$ $l_d = 61.4d_b = 1,535mm$	The difference in lengths is due to a pre-defined value of the parameter $\frac{c + K_{tr}}{d_b}$

(continue on page 7)



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SPLBE CORNER

PICE –QATAR ADOPTED A NEW HOME FOR SPLBE REVIEW

2PLBE CORNER



The SPLBE review which is currently held at the function room at the basement of Doha Grand Palace Hotel will soon to have a new home.

In search of a more suitable home, the PICE-Qatar SPLBE Review Director, Engr. Loraine Radan disclosed that starting March 6, 2015, the review classes will be held at Royal Taste Restaurant located at Salwa Road beside Safari Hypermarket.

This is actually the third (3rd) home of the review classes after the Filipino Cultural Center (FCC) and the Doha Grand Palace Hotel. This is a result of the continuously growing number of PICE - Qatar associate members who partake in the review classes and the quest of organization to find a better place that will cater to that growing demands.

Currently there are eighty five (85) enrollees to the SPLBE review and about sixty one (61) regular attendees.

Engr. Loraine also disclosed in an interview with "The Tekton" that the number of regular lecturers was boosted following the

addition of Engrs. Jerold Jhon R. Arandia, Gerald L. Paradero and Allan Paul C. Calpito to the roster. Engr. Elizabeth Beltran, an active as a supporting member to the current regular Friday undertaking. The Friday members who are regularly taking charge of the Friday review is composed of the lecturers, the volunteer members / committee members and the two (2) BODs regularly assigned by the 2nd Vice-President Aileen Abejero, to observe and assist.

The PICE-Qatar is still searching for interested members with review teaching experience, time, interest and dedication to join the SPLBE program as review instructors. Interested members may approach the PICE Qatar President, Engineer Loraine Radan and other BOD members during Wednesday gathering at FCC or through e-mails to signify their intention.

PICE-Qatar supports.....

The two-day summit showcased resource speakers from among the PICE and ASEP organizations who took turns on discussing technical issues on seismic and geotechnical design considerations.

The event was graced by the presence on the second day of Engr. Carlos M. Villaraza, M. Eng'g, F. ASEP and Engr. Adam C. Abinales, M. Eng'g, F-ASEP , President and Immediate Past President of ASEP, Inc.

The Association of Structural Engineers of the Philippines (ASEP), Inc. is considered the association of the "elite" in the civil engineering which together with the Philippine Institute of Civil Engineers (PICE) are both partners of the government in nation building through technological advancement.

Seminar on.....

currently serving as its Secretary. She has more than 19 years of experience in the construction industry of the Philippines and in Qatar, specializes in the field of Quantity Surveying and Contracts Administration.

"FIDIC" is an acronym for Federation Internationale Des Ingenieurs-Conseils, a French words that stands for International Federation of Consulting Engineers, an international standards organization for the construction industry, best known for the various FIDIC contract templates.

Engr. Lopez during the lectures touches on the brief history of FIDIC, Overview of FIDIC Suite of Contracts (Conditions of Contract for Construction, Conditions of Contract for Plant and Design-Build, Conditions of Contract for Design, Build and Operate Projects, Conditions of Contract for EPC/Turnkey Projects and Short Form of Contract), suitability of each FIDIC Contract, Features and Characteristics of FIDIC forms of contract, Roles of Employer and the Engineer and Dispute Resolution Procedures under FIDIC Contracts.

The Engineers.....

BS 8110 Parameters (3.12.8)

f_{bu}	=	ultimate anchorage bond stress as per Table 3.26																	
		<div>Table 3.26 — Values of bond coefficient β</div> <table><tr><th rowspan="2">Bar type</th><th colspan="2">β</th></tr><tr><th>Bars in tension</th><th>Bars in compression</th></tr><tr><td>Plain bars</td><td>0.28</td><td>0.35</td></tr><tr><td>Type 1: deformed bars</td><td>0.40</td><td>0.50</td></tr><tr><td>Type 2: deformed bars</td><td>0.50</td><td>0.63</td></tr><tr><td>Fabric (see 3.12.8.5)</td><td>0.65</td><td>0.81</td></tr></table>	Bar type	β		Bars in tension	Bars in compression	Plain bars	0.28	0.35	Type 1: deformed bars	0.40	0.50	Type 2: deformed bars	0.50	0.63	Fabric (see 3.12.8.5)	0.65	0.81
Bar type	β																		
	Bars in tension	Bars in compression																	
Plain bars	0.28	0.35																	
Type 1: deformed bars	0.40	0.50																	
Type 2: deformed bars	0.50	0.63																	
Fabric (see 3.12.8.5)	0.65	0.81																	
β	=	coefficient dependent on the bar type																	
	=	0.50 (type 2 deformed bars in tension)																	
$f_{bu} = \beta \sqrt{f_{cu}}$	=	$0.50\sqrt{37} = 3.04 MPa$																	
F_s	=	force in the bar																	
	=	$A_b f_s = \frac{\pi}{4} d_b^2 f_s = \frac{\pi}{4} d_b^2 (0.87 f_y)$																	
	=	$\frac{\pi}{4} (25)^2 (0.87) (460) = 196,450 N$																	

Reference Section	BS 8110 – 1:1997	Calculations	Remarks
3.12.8.1	Avoidance of bond failure due to ultimate loads		For 25mm diameter bars
3.12.8.3	$f_b = \frac{F_s}{\pi d_b l_d}$	$l_d = \frac{F_s}{\pi d_b f_b}$ $l_d = \frac{196,450}{\pi (25) (3.04)} = 825mm$	Values of development lengths vary greatly due to bond strength.

Conclusion: Based on the results of the calculations provided, we can infer that the ACI gives more conservative values which are, at a maximum, double the value provided by BS Code. Though both references have their own basis with regards to the assumptions and parameters used, ultimately, it is the Engineer's responsibility to assess which result will yield an economical and safe design and in compliance with the acceptable standards and project specifications.

Seminar on "The FIDIC Suite of Contracts" held



The second (2nd) seminar for the year 2015 was conducted on February 27, 2014 at Oryx Rotana Hotel in Doha, Qatar from 8:00 AM to 5:00 PM. This is in accordance

with the Continuing Professional Education (CPE) being pushed through by PICE-Qatar to alleviate the knowledge of its members in all of the aspects of the Civil Engineering profession.

Billed as "Seminar on the FIDIC Suite of Contracts" this undertaking is attended by seventy one (71) members of the PICE Qatar that came from different government agencies and services, contractors and consulting firms alike.

Engr. Asuncion V. Lopez, the Resource Speaker for the seminar is a graduate of Bachelor of Science in Civil Engineering from Far Eastern

University, Manila and has recently completed a Royal Institution of Chartered Surveyors (RICS) Professional Adaptation Course through distance learning from The College of Estate Management, UK where she took the modules on Construction Planning, Tendering & Finance; Quantity Surveying Practice and Construction Law. She is currently a candidate for RICS Assessment of Professional Competence (APC), her roadway to become a full pledge Chartered Quantity Surveyor. She is a bona fide member of the PICE - Qatar

(continue on page10)



PHILIPPINE INSTITUTE OF CIVIL ENGINEERS - QATAR CHAPTER

CALENDAR OF ACTIVITIES AND EVENTS

Date	Description	Location/Remarks
1/2/15	1st BOD meeting / Launching of "The Tekton" / Orientation for SPLBE Review	FCC
1/7/15	1st Weekly Meet-Up & Members' Consultation (every Wednesday)	FCC
1/9/15	Start of SPLBE CE Review	FCC
1/16/15	SPLBE CE Review / Seminar on Contracts Management by Gregorio Garcia	FCC/Oryx
1/23/15	SPLBE CE Review / Seminar on Contracts Management by Gregorio Garcia	FCC/Oryx
1/30/15	Induction of 2015 BODs, New Civil Engineers & New Members / Tekton Issue 2	Wyndham Grand Regency
2/6/15	2nd BOD meeting / SPLBE CE Review (New venue)	FCC/GQPHotel
2/10/15	Qatar National Sports Day	Corniche
2/13/15	SPLBE CE Review	GQPHotel
2/20/15	SPLBE CE Review / ASEP Seismic Summit 2015 / UFOQ Gen. Assy	GQPHotel/Oryx/PE
2/26/15	CoPA Counselling Program to Distressed OFWs every 3rd Thursday of the month	POLO/OWWA
2/27/15	SPLBE CE Review / Seminar on FIDIC Suite of Contracts by Engr. Azon Lopez	GQPHotel/Oryx
3/6/15	3rd BOD meeting Tekton Issue 3 / SPLBE CE Review / Pasasalamat kay Amba Start of Sports Festival - InterColor Basketball League	FCC/Royal Taste/PE Wakrah Ind. School
3/13/15	SPLBE CE Review / Seminar on Rail Tunnels by Prof. Arnold Dix	Royal Taste/Oryx
3/20/15	SPLBE CE Review	TBA
3/27/15	SPLBE CE Review / Seminar on SnagR by Samer Ghanem	TBA / Oryx
4/10/15	4th BOD meeting / SPLBE CE Review / Technical Seminar	FCC/TBA/Oryx
4/17/15	SPLBE CE Review	TBA
4/24/15	SPLBE CE Review / Technical Seminar	TBA/Oryx
5/1/15	5th BOD meeting/ SPLBE CE Review	FCC/TBA
5/8/15	SPLBE CE Review	TBA
5/15/15	SPLBE CE Review	TBA
5/22/2015	FOUNDATION ANNIVERSARY CELEBRATION / End of Sports Festival	QBC
5/25/15	Actual Foundation Day	
5/29/15	SPLBE CE Review / Technical Seminar	TBA/Oryx
6/5/15	6th BOD meeting / SPLBE CE Review / Technical Seminar	FCC/TBA/Oryx
6/12/15	SPLBE CE Review / Independence Day	TBA/Sheraton
6/19/15	SPLBE CE Review	TBA
6/26/15	SPLBE CE Review / Technical Seminar	TBA / Oryx
7/3/15	7th BOD meeting / SPLBE CE Review / Technical Seminar	FCC/TBA/Oryx
7/10/15	SPLBE CE Review / Technical Seminar	TBA/Oryx
7/17/15	SPLBE CE Review / Technical Seminar	TBA/Oryx
7/24/15	SPLBE CE Review	TBA
7/31/15	SPLBE CE Review	TBA
8/7/15	8th BOD meeting / SPLBE CE Review / Technical Seminar	FCC/TBA/Oryx
8/14/15	SPLBE CE Review	TBA
8/21/15	SPLBE CE Review / Technical Seminar	TBA/Oryx
8/28/15	SPLBE CE Review	TBA
9/4/15	9th BOD meeting / SPLBE CE Review / Technical Seminar	FCC/TBA/Oryx
9/11/15	SPLBE CE Review	TBA
9/18/15	SPLBE CE Review / Technical Seminar/Workshop	TBA / Oryx
9/23/15	4th ITC & Board Exam	TBA
9/24/15	4th ITC & Board Exam	TBA
9/25/15	4th ITC & Board Exam	TBA
10/2/15	10th BOD meeting / Technical Seminar/Workshop	TBA
10/30/15	Beach Clean-Up	TBA
11/6/15	11th BOD meeting / Technical Seminar/Workshop	TBA
11/27/15	Annual General Assembly & Election	TBA
12/4/15	12th BOD meeting / Technical Seminar/Workshop	TBA
12/15/15	Christmas Party with Distressed OFWs	POLO/OWWA

January '15						
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February '15						
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March '15						
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May '15						
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June '15						
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July '15						
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August '15						
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September '15						
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October '15						
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November '15						
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December '15						
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Regular meet-ups:

- Weekly members' gathering every Wednesday, 7PM
52 Wednesdays are allotted each year for members' consultation on anything related to membership, ACPER/APEC/ASEAN/MMUP, seminars, upgrade, community services etc.
- BOD meetings every first Friday of the month, 10AM
- CE Review every Friday starting 09Jan2015 to 18Sept2015
- CoPA Counselling Program to Distressed OFWs every 3rd Thursday of the month

Notes:

- This is a LIVE DOCUMENT.
- Committees are enjoined to update this schedule every month before the BOD meeting to reflect their proposed activities.
- Activities and events are subject to change depending on availability of venues & facilitators.
- Other activities like plant visits, site visits, construction-related visits in Doha or in the Middle East will be advised from time to time.