

Feedback on Skills Development and Capacity Building

RPF

Pretoria

11/12 November 2008

Issues Covered

- **Establishment of a Road Engineering Coordinating Body**
- **Qualification for Technologists and Technicians (workshop of 7 Nov '08)**
- **Joint Initiatives**
 - Pavement Engineering course
 - MTC (covered separately in RPF)
- **Industry Needs survey**

Establishment of a Road Engineering Coordinating Body

Background

- Skills Development Task group of RPF re-established at May 07 RPF
- Coordination of skills development in Roads sector
- Meeting November 2007
- Coordinating body discussed

Outcome of Meeting

- **All agreed the need for a coordinating body for skills development in the road infrastructure sector**
- **Mandate to establish a body**
 - RPF resolution to drive the establishment
 - Communication to DoT to obtain support and ratification of government
- **Draft structure and ToR to be circulated for comment**
 - Coordination of training & education initiative
 - Coordination of CPD initiatives
 - Coordination of industry best practice documentation
 - Road sector interface with CETA/SAQA/DoE/ECSA
 - Road sector interface with tertiary institutions
 - Coordinate schedule of presentation
 - Coordination of research
 - Management of RPF??

RPF resolution – Nov 07

The sponsors of the RPF should actively pursue the establishment of a Roads Academy in line with the RISFSA document approved by Cabinet and obtain a mandate from DoT to drive the initiative

RPF May 08 - Resolution #1

That the sponsors of the RPF should continue to pursue the establishment of a Roads Engineering Coordinating Body (RECOB) in support of the Roads Coordinating Body (RCB) and RISFSA

Based on the skills development paper presented and published in the Sabita Digest

RPF May 08 - Resolution #5

The RPF resolves to create and mandate an education and training task group in order to communicate the industry needs to the various industry training bodies, and actively co-ordinate and participate on these various bodies in order to achieve a set of qualifications that are in line with the needs of the country. This will be achieved by actively engaging as industry with ECSA, CETA, SAQA and others at their committee levels

Road Engineering Coordinating Body (RECOB)

- **Strategic coordination of human capital development in the road sector in line with the RISFSA document with alignment of the road sector initiatives to the broader skills development initiatives driven by the Government's Joint Initiative in Priority Skills Acquisition (JIPSA);**
- **Coordination of education at tertiary institutions and through the SAQA/CETA structures;**
- **Information sharing and dissemination for continued professional development;**
- **Coordination and management of best-practice documentation, standards and specifications in support of RCB initiatives;**
- **Coordination of research activities in support of best-practice;**

RECOB Strategic Trust Areas

Road
Engineering
Coordinating
Body

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graph TD; A[Road Engineering Coordinating Body] --> B[Strategic Support & Coordination of Skills Development]; B --> C[Education & Training Coordination]; B --> D[Best-practice documentation]; B --> E[Information sharing & dissemination]; B --> F[Research Coordination];
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Strategic Support
& Coordination of
Skills
Development

Education &
Training
Coordination

Best-practice
documentation

Information
sharing &
dissemination

Research
Coordination

RECOB

- **Support structure to RCB and RISFSA**
- **Private sector driven for quick implementation**
 - Management Executive of sponsor organisations
 - Public/Private Advisory Board
 - Ultimately an agency of DoT
- **Independent coordinating interface for road engineering**
- **Should not run courses in competition to current service providers (eg SARF, AsAc, C&CI, tertiary institutions)**
- **Process driven by RPF sponsors**
- **Business plan prepared for discussion**

Actions Since May RPF

- Meeting with RPF sponsors to discuss draft business plan
 - Agency of DoT
 - Remove coordination of documentation
 - Engage with DoT (LS/BV)
- Amended plan submitted to DoT
- Meeting with DoT on 10 Sept 08
- RCB Workshop on 17 Oct 08 to discuss the DoT/RCB response to the proposal

Feedback from the Workshop of 13 Oct 08

- Proposal was welcomed by DoT/RCB
- DoT gave an in-principle agreement to the formation of a coordinating mechanism for skills development in the sub-sector in support of RCB and RISFSA
- Seen as joint initiative between the public and private sector
- Steering Committee established
 - Jointly chaired (JM and LS)
 - Equal representation from RCB and RPF sponsors
 - Develop a joint business/establishment plan
 - Ultimately an agency of DoT but short term establishment needs further discussion
- First meeting of SCom 26 November 2008

Qualifications for Technicians and Technologists

Feedback from ECISA workshop
of 7 November 2008

Higher Education Qualifications Framework

- **New policy on HEQ from October 2007**
- **Integral part of NQF based on a 10 level NQF (not the current 8 levels)**
- **Responsibility now with Council on Higher Education (CHE) for**
 - **QA of provider programmes**
 - **Delegation of programme accreditation to professions**
 - **ECSA via SAICE for Civil engineers**
 - **Standards generation and setting**

Qualification types

■ Undergraduate

- Higher certificate
- Advanced certificate
- Diploma
- Advanced diploma
- Bachelor's Degree

■ Postgraduate

- Postgraduate diploma
- Honours Bachelor Degree
- Masters
- Doctorate

■ Minimum credits defined at NQF levels and exit levels

- Minimum 120 credits per year

Naming Rules

■ Permitted Designators, Qualifiers & Abbreviations

Type	Designator	1 st Qualifier	2 nd Qualifier
Bachelor	of Engineering Technology	In Civil Engineering	
Bachelor Honours	of Engineering Technology	In Civil Engineering	In Pavement Engineering
Diploma		In Civil Engineering	In Materials Technology
Bachelor	of Engineering	In Civil Engineering	

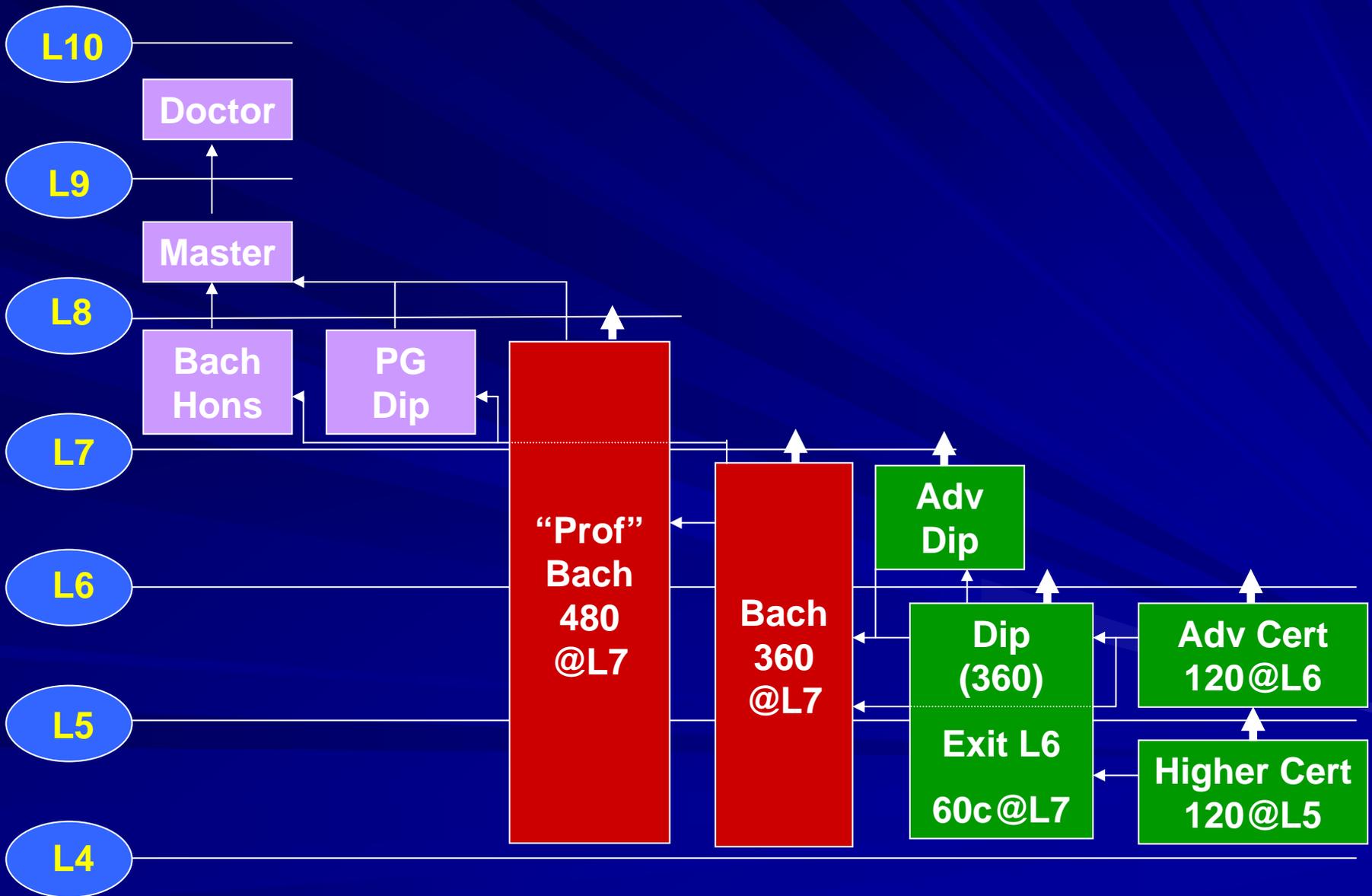
NQF levels

8+ - Doctoral	10 - Doctoral	HET
8 - Masters	9 - Masters	
7- Bachelors all types	8 – Bach 480+	
	7 – Bach 360	
6 - Diploma	6 – Diploma/Cert	
5 - Certificate	5 - Certificate	
4	4	FET
3	3	
2	2	
1	1	GET

Qualification relate to credits

Qualification Type	Credits at NQF levels (Minimum credits; Exit level ■)						
	Total	5	6	7	8	9	10
Higher Cert in _	120	120					
Advanced Cert	120		120				
Diploma	360	=120		60			
Advanced diploma	120			120			
Bachelor of _ in _ (3 yr)	360	=96		120			
Bachelor (4 yr Professional)	480	=96		120	96		
Bachelor Honours	120				120		
Postgraduate diploma	120				120		
Masters	180					120	
Doctoral	360						360

Generic HEQF Model



Other Action Finalised

- **Engineering Team member Profiles defined**
 - Professional Engineers
 - Professional Engineering Technologists
 - Professional Engineering Technicians
- **10 Common Exit Level Outcomes defined**
- **Range statements formed**
 - Engineer – *Complex problems*
 - Engineering technologist – *Broadly-defined problems*
 - Engineering technician – *Well-defined problems*
- **Knowledge areas defined**
- **Generic baseline credits proposed per knowledge area per qualification**

Implications to Civil Engineering & Roads

- **Current B Tech will disappear**
- **Separate streams for Engineer, Technologist and Technician**
- **Allows for curricular at Tertiary Institutions to be better aligned to industry needs**
- **Need mandated industry participation and coordination with relevant bodies and institutions to ensure needs are met (RECOB)**
- **Allows for specialisation of technologists in pavement engineering at NQF 7 (P Eng course)**
- **Allows for introduction of a materials specialisation at HE levels**

Feedback on Pavement Engineering Course

Pavement Engineering Course

- **Pilot course started 1 September 2008**
 - 2 modules presented
- **Public/private partnership**
 - Private sector (AsAc & C&CI) & CSIR
 - Course development
 - Mentorship
 - GDPTRW
 - Course presentation
- **22 participants**
 - 5 GDPTRW
 - 1 Municipality
 - 2 CSIR
 - 14 private sector
- **10 mentors**
- **Future course being discussed**

Feedback from Industry Needs Survey

Carried out at the May '08
RPF

General Information

■ 52 respondents

- 50 male
- 2 female

■ Industry sector

- 37% Public/Agency/Parastatal
- 63% Private sector

■ Age groups

- 29% < 40
- 71% > 40

■ Designation

- 14% Technologist/Technician/other
- 31% Civil Engineers
- 55% Director/Partner/Senior manager

Which current guidelines, standards and specifications need to be reviewed/updated?

- **All TRH & TMH documents mentioned**
- **COLTO standard specs (in progress)**
- **Impression that practitioners don't know what is happening**
- **SANRAL/DoT coordination**
- **Need a consolidated and coordinated list of what is in progress and who is responsible**

Which new guidelines in road pavement engineering need to be developed?

- 28 different suggestions for consideration
- Examples
 - Guideline on Rehabilitation with emphasis on recycling
 - TRH on road maintenance for surfaced and gravel roads
 - Guideline on the use of non-traditional stabilisers
 - Bridge inspection and management
 - Gravel road management
 - Interpretation of test results
 - Construction management
 - Concrete pavement rehabilitation
 - Design guide for UTRCP (method statements for LIC)
 - Appropriate standards for low volume roads
 - CTB preparation
 - Practical construction for young engineers and technicians
- Who is coordinating the needs? (RECOB?)

What other course are required for presentation?

■ 34 suggestions

■ Examples

- Advanced laboratory testing and interpretation of results
- Gravel road design, construction & maintenance
- Train the trainers
- Appropriate standards for LVR
- Basic communication and presentation skills
- Basic road management principles
- Construction methods techniques and equipment
- Road rehabilitation in the urban environment
- Condition Assessment
- LIC
- Skills programmes to give certificates in bituminous products technology or concrete technology or materials technology
- Bridge management systems

■ Who coordinates? (RECOB?)

Does the industry need any new Conference topics?

■ 17 suggestions

■ Examples

- Preservation of scarce resources
 - Borrow-pit management
- Skills development in the road sector
- Gravel road construction, maintenance and upgrading
- Low volume roads
- Road maintenance
- Turnkey service delivery
- Concrete rehabilitation
- Laboratory testing
- Possible CAPSA topics
 - Rheology
 - Low temperature asphalt
 - Sealing in cold conditions

Conclusions

- Things are happening
- Currently ad hoc
- Coordination essential
- Coordinating Body needs to be established urgently