



NEWSLETTER

2020 I.C.I.S. Congress Zurich, Switzerland

I.C.I.S. Members meet at the annual Congress and Delegates Assembly, hosted by an I.C.I.S. member. At each Congress, Members and guest speakers present on industry trends and developments, and technical issues on construction specifications, classification, standards, cost information, product information, sustainability, BIM, digital engineering etc. These presentations provide an overview of changes in construction information globally. Friendships are developed during the networking events that result in closer working relationships between Congresses.

Congress provides the opportunity to gain KNOWLEDGE, to NETWORK, and to keep CURRENT regarding your organization's activities.

The 2020 ICIS Delegates Assembly and Congress will be held from Sunday 21 June and finish with the Congress Dinner on the evening of Wednesday 24 June.

This year's focus is **"Specification & standardisation in the construction supply chain considering the whole lifecycle of an object in regard with the connectivity of construction information"**.

Venue: Hotel Krone Unterstrass which places you in the heart of Zurich, convenient to Museum of Design and Swiss National Museum. This 4-star hotel is within close proximity of Rigiblick Funicular and St. Josef Church.

Zurich is Switzerland's centre of economic life and education. Located in the heart of Europe, the city offers all the modern amenities of a cosmopolitan metropolis, without sacrificing its natural side. Zurich has for years ranked among the world's top cities in terms of quality of life. It is a boutique city that offers everything that implies, albeit in small and exquisite format.



Congress 2020

Sunday 21 June Networking

Monday 22 June Commencement

Wednesday 24 June Congress Dinner

Venue:

Zurich, Switzerland

Accommodation:

Hotel Krone Unterstrass

ICPMA Conference

The International Construction Project Management Association is holding their conference in New York City, USA from 14 to 16 June 2020.

<http://www.icpma.net/>



ICIS Secretariat

Email: secretariat@icis.org

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Member Profile



svenskbyggtjänst

<https://byggtjanst.se/>

Svensk Byggtjänst (**The Swedish Building Centre**) is a limited liability company and is owned by around 30 organizations representing the entire Swedish construction industry and the entire construction process. Their mission is to offer products and services that contribute to a more efficient construction process. This means, among other things, that the majority of their profits are returned to the industry, as the company continuously invests in competence, service and product development. Svensk Byggtjänst's bookstore is Sweden's largest for building literature. Following are examples of books published by Svensk Byggtjänst, other publishers, authorities and associations.

- "AMA" (Common Material and Work Description) contains the framework that describes the standard for materials and work performance. With AMA online and our "description tool" you can read and create technical descriptions.
- "Byggkatalogen" (Building Product Catalog) contains information about building products and material suppliers.
- "Omvärldsbevakning" (Global scanning) Online keeps you updated about new laws, rules and new technologies.
- With a world of constant change, it is difficult to capture everything that concerns your business area – therefore, we also have a service called "Bygginfo"(Construction information).
- "Renoveringsinfo" (Renovation advice) online provides you with news, research results and articles about professional energy efficient renovation.
- "Företagssök"(Business Search) online collects companies in the construction industry.

President's Column

Global communication underpins the development of new products and technologies. The advancement of computing power assists greater results from BIM, prefabrication and robotic construction. Nevertheless, the majority of construction activities provide jobs for those with excellent manual skills.

Additionally, no matter how great the technology is, there is the necessity for appropriate regulation and standards, good documentation, inspection and enforcement. In lieu of regulated construction quality, the construction specification remains the tool for expressing the designers required construction quality.

A number of countries have faced reduced enforcement of regulations, standards and specifications. We all need to impress on our industries the importance of quality in protecting health and safety of occupants and users of the built environment.

Connectivity of information is another current challenge. The key questions are: "What information needs to be accessed?", "In what form?" and, "By whom?" I believe the Asset Information Requirements Guide, led by Neil Greenstreet of NATSPEC in Australia, is a key turning point for digital delivery in Australia. Because up to 80 per cent of expenditure on a building is spent during operation and maintenance, this is where information for making the right decisions becomes most important. It is imperative to understand the owner's asset information requirements at the start of the project so that the appropriate information, in the appropriate form, is handed over at the completion of the construction phase. We thank our international friends for their input to the document.

The solution may not be a fully integrated digital twin, but sometimes a series of discrete information sets that are accessible through dashboards. There are great examples of this in Australia.

I would also like to thank Rolf Huber and Barbora Pospíšilová Janovská for their years on the Executive, and welcome Michel Bohren (Managing Director, CRB) as Company Secretary and Petr Vokoun (Managing Director, BIM Project) as Treasurer.

Richard Choy

President, International Construction Information Society



Michel Bohren, Richard Choy and Petr Vokoun



I am delighted to make my first contribution to your regular newsletter as the new President of ICPMA. Our association with I.C.I.S. is important to us and I hope to continue to extend this over time.

I know that your Delegates Assembly and Congress this year addressed the changes being brought about by digitalization, and part of our own conference in Lausanne this June also debated the progress being made with technological advances across continents. Our truly multinational audience of over 120 people was treated to speakers showcasing inspiring projects where people from many countries had worked together to deliver quality projects.

The theme of developing people, both young and more experienced, is central to my aims for ICPMA whilst I am President. Our ever-expanding technologies can help to build bridges between all the professionals who form part of our project delivery teams, but people are the key. Their motivation to learn and to work together is essential to the continuing improvement of construction project management. And this improvement is necessary in a world where the quality of work is on a never-ending path to raise standards.

It is for this reason that ICPMA promotes its annual awards programme. We must continue to recognise exemplar projects so that positive messages can be shared and best practice rewarded. Our awards were launched in 2015 and this year we have refocused the criteria and streamlined the submission process to help those who would like to enter. We target projects that have used cooperation between those involved in a project to bring about success – in other words, working through alliances rather than conflict. We also celebrate projects where innovation has improved quality. Our previous winners have included both large and small projects from many countries around the world. The 2020 awards are free to enter and details are on www.icpma.net – select the blue button “Awards” on the homepage.

We would also like to encourage members of I.C.I.S. to join the ICPMA family. Please follow us on www.icpma.net; on our Facebook site ICPMA; and on LinkedIn at International Construction Project Management Association.



*Christina Stoltz,
President ICPMA 2019-20*



IIBH Japan

The Institute of International Harmonisation for Building and Housing (IIBH) was founded with the aim of supporting the development of the building and housing sector in Japan, including research and study of the international harmonisation of engineering, systems, standards, codes, etc.

IIBH comprises 37 full members including the General Building Research Corporation of Japan, and the Public Buildings Association.

The General Building Research Corporation of Japan (GBRC) is a non-profit foundation that was established in 1964. The mission of GBRC is to improve the quality and safety of buildings for public welfare by conducting wide-ranging research and testing activities in the building and construction fields.

The Public Buildings Association contributes to streamlining the business of public buildings such as national and local governments and improving the technical level and status of engineers involved in public building construction. It is a public interest corporation established for the purpose of planning. Through its Public Buildings Research Institute, the Association is proceeding with research on issues that will lead to policies with a broad perspective and future prospects. This includes ultra-greening, conservation of energy, reduction of CO₂ utilisation, LCEM (life cycle energy management) for the promotion and research of wooden public buildings that we have extensively promoted as the next generation of public buildings Study Group. In November 2019, two new publications were released: "Explanation of 2019 building standards for public construction work: Building work" and "Explanation of the public building construction standards for 2019 standards (Equipment construction)."



Deltek + AVITRU

Deltek + Avitru was in full force at the recent CONSTRUCT AEC Education & Expo held October 9-11 in National Harbor, Maryland. Not only was Deltek + Avitru a Platinum event sponsor and exhibitor, but the team also contributed extensively to CONSTRUCT's success by presenting a variety of education sessions. Marc Chavez, FCSI, AIA, RELiAP, CCS, CCCA, and Gill Letourneau, AIA, CSI, presented "Levels of Development (LOD) for Specification Information." This session's focus was to help teams define the information needed at each level of development throughout the course of design. During the session, several scenarios by which systems may be defined by the four (or five) recognised methods of specifying were described: Descriptive, Performance, Reference Standard, or Proprietary, and the most usual method, a combination of all four methods. By the end of the session, participants were able to:

- Recognise the fundamental concepts underlying the existing LOD document and its relation to AIA contract documents' use and exchange of "digital documents"
- Identify the relationship between LOD and non-graphical qualitative information
- Define the problems inherent in determining different LODs for different materials and assemblies
- Apply the methods of specifying to this new LOD

New to this year's CONSTRUCT event were the Coffee Talk sessions. These were a collaborative peer-to-peer learning environment where featured CONSTRUCT speakers hosted mini educational sessions on trending topics and challenges affecting the AEC industry. Deltek + Avitru's Sr. Product Marketing Specialist, Denise McDaniel, presented two sessions: "Navigating Workplace Shortages: From Design to Build" and "5 Considerations When Specifying Manufacturers." The AEC industry is facing significant professional and skilled trades staffing shortages, which are impacting many firms, causing construction schedules to be extended and increasing project costs. The session focused on methods of educating, attracting and retaining professionals, and streamlining processes for employee efficiency. The other educational session presented the five critical elements specification writers must consider when evaluating and selecting building products. The five critical items that continually push to the top of the list include:

- How long the product has been on the market
- Product technical information available from the manufacturer
- Product cost (both procurement and total cost of ownership)
- Availability of the selected product and required lead time
- Logistics matters: getting the product to the job site on time and in quality condition

Deltek + Avitru is proud to have played a key role in the 2019 CONSTRUCT AEC Education & Expo as a sponsor, exhibitor and presenter of industry information to help AEC professionals enhance their skills and increase their knowledge, giving them a competitive edge in their field.

Norconsult

Most consulting engineers and architects are using ISY Beskrivelse to produce their tender documents and bills of quantities (BoQ).

In ISY Beskrivelse, you can make small or large advanced specification documents based on prevailing standards.

ISY Beskrivelse has many features that help you to create good specification documents.

There are strict requirements for writing specification items correctly. ISY Beskrivelse's many useful features that help you with this include:

- Drag and drop prevailing standard text items into the document
- Verify that the items are filled in correctly
- Suggestions for other relevant items (supplementary works)
- Automatic or custom made keywords

Beskrivelse has several import and export options:

- Import components from cost estimates made in ISY Calcus
- Import BIM through open formats (IFC)
- Import/export to cost calculating software
- Import/export to GAEB format (German standard)



svensk byggjänst

Being a Builder describes the developer's situation as the actor who initiates, leads and drives building projects towards set goals for the benefit of housing, operations and the functions of society.

Central tasks for the developer are partly being able to take responsibility for the properties of the building from a legal point of view, and partly to achieving the expected benefit and value for the users through construction projects.

Another important aspect is communication within projects and outwards to various interest groups.

The book is issue 2 of the Client's Role, and is part of the Management & Governance series.



NATSPEC// Construction Information

NATSPEC sits on the Executive of the Australasian BIM Advisory Board (ABAB). ABAB held its third and final Forum for 2019 on 13 September in Brisbane. Developed by ABAB, the Australian BIM Strategic Framework (the Framework), now backed by the Board of Treasurers, provides the necessary motivation for industry to take a consistent approach to BIM implementation. The Framework embodies the strategies articulated by ABAB and incorporated into its nationally important initiatives over the past few years.

The Framework includes sections on objectives, definitions, policy principles, fostering an integrated approach, and strategic action areas.



"With the unprecedented levels of investment in infrastructure projects, a nationally consistent approach to BIM policy and implementation is essential to realise the potential benefits in the delivery and operation of infrastructure that BIM offers," said Mr Curthoys, ABAB Chair. "For consultants and contractors it also means reducing the duplication of effort involved in having to apply different standards from project to project".

The Forum endorsed the progress of two projects designed to provide national leadership:

- National metrics to measure, report on project outcomes, benchmark and identify where BIM provides the most value for clients.
- To demonstrate the value of data management in asset management in 2020 and support asset owners to grow their information management maturity.

ABAB identified that due to the increase in adoption of BIM in the design and construction phases on Government projects, its focus is shifting to maximise the benefits across the life cycle of an asset within the broader built environment.



c' r' b'

Stefan Reiser, CRB Project Manager Production

Sound construction expertise will be just as much in demand in the future as it is today. The “Normpositionen-Katalog” (NPK) is the Swiss Standard for providing the descriptive text for construction tender documentation. In order to make use of its advantages in connection with digital planning methods, CRB (Swiss Research Centre for Rationalisation in Building and Civil Engineering) relies on an evolution of these standards (NPK chapters) in such a way that they can be used in various forms.

A building undergoes a lot during its life cycle: first, it is designed and planned according to the current rules of architecture, and after a few decades, the ravages of time gnaw at it. Initially, there are only a few individual installations that need to be replaced. At some point, however, the question of the building's future will arise. Now, suppose that the NPK catalogue of standard descriptions is such a building: in the last six decades, thousands of experts have brought in their knowledge from all disciplines and continuously developed the “building.” The users know their needs and feel at home with them. At the same time, the world around this “building” has changed: digital planning methods, especially BIM and VDC, open up new possibilities and change the way data and information are exchanged and processed. Should the NPK now be deleted? “Yes, we want progress!” scream the “progressives” who are already following the digital path, who have turned interfaces into connection points and are exploiting the potential of increasing efficiency. “No, we want constancy,” reply those who rely on the established tried and tested. We answer: “Both – we offer evolution!”

Functional extension of the NPK

CRB has been providing standards for the design, construction and operation of structures for 60 years, thus supporting collaboration and understanding between the agencies involved in these complex processes. The BIM methodology also pursues the goal of enabling results-oriented decisions with integrated information processes. According to recent figures from the online survey commissioned by independent consultants KUB / SVIT (Chamber of Independent Consultants for Building Owners) in 2018, 73 per cent of respondents plan to use BIM over the next two to three years, and three quarters expect BIM to significantly increase their efficiency. In order to meet these expectations, CRB is currently developing the NPK towards component-based tendering.

Basis for cooperation

Often, people talk about the analogue or digital world when describing the current transformation in the construction industry. However, reality shows that these two ways of thinking are not isolated from each other but are side by side. So it may well be that in the morning collision checks are carried out in an ICE session, while professionals operate on site in the afternoon with lead pencils and marker pens. Combining both worlds is a challenge for all actors in the construction industry. CRB is working hard to provide tools for both worlds. However, this does not break with established standards; rather, the information from the NPK chapters is prepared in such a way that it can be used in a variety of situations. The NPK is unique in international comparison. It incorporates all the technical know-how that is important for the description of construction and services, and through the co-development of its content by entrepreneurs, planners and builders, the NPK covers the needs of the entire industry. In this way, it creates trust and is an important component of the cooperation, which in future will also be promoted by BIM. To achieve this, CRB is currently extracting information from the existing NPK chapters. This will then – together with the existing rules in the respective chapters – be linked with components in order to use them in a digital environment and to avoid media breaks as far as possible.

Employers' information requirements

At the same time, an integrated chain of information in planning and construction requires that the decision on how the information should be made available be made early in the construction process. For example, when dealing with large and complex amounts of data, different ways in which individual trades deal with the information in the model must be defined. The recognised solution for this is called “employers' information requirements” (EIR) and is based on the strategic BIM objectives of the client. With this basis, it is recorded which information needs within the digital building model are fulfilled, in which form and at what time. In this area too, CRB is currently developing solutions for the future with partners from research and industry. One fact, however, remains undeniable: sound construction expertise is irreplaceable. Digitalisation offers tremendous opportunities, yet it must remain a method that supports rather than hampers professionals in their actions. Equally important for the development of the future are, and will remain, important structures such as – in the figurative sense – the NPK.



RAKENNUSTIETO >

The New Era of Urban Policy is a much-needed foundation for urban development

The new book outlines the development cycle of Finland's urbanisation, clarifies the concepts of urban policy, describes the stages of state urban policy, and presents the substantive challenges of urban policy in the 20th century.

The New Era of Urban Policy is the missing element of urban policy in Finland, bringing together experts from the next generation and providing a platform for regional developers in the 2020s. The work has been edited by Eero Holstila and Timo Hämäläinen, who have worked in urban issues.

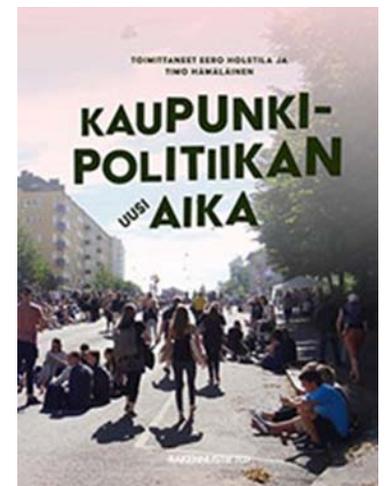
“Even though urbanisation is recognised as a megatrend, urban policy debate in Finland has remained volatile. The industry's ground-breaking book now offers new impetus to the debate,” says Eero Holstila.

The book prepares the subject by finding an answer to the classic question of what a city is and what forms urbanisation is taking. The change in the role of urban politicians is explored from Gustav Vaasa's days through the 1990s to the present. At the same time, the phases of urbanisation in Finland are described and the current vision of the phenomenon is presented based on population forecasts and updated data from the urban network survey.

The book focuses on the content of urban policy. The challenges and opportunities of boosting urban vitality are explored on the basis of traditional urban income angles: cities as drivers of economic growth, housing policy that responds to population growth, land use and transport solutions, and the prevention of exclusion and segregation. At the same time, the role of civil society will be discussed.

“The makers of urban policy and their roles have changed over time. The book adds a new chapter to the continuum, describing how civil society has slowly become a player in the vitality of cities,” explains Timo Hämäläinen.

The book concludes by outlining the nature of 2020s urban policy in the face of climate change and other increasingly complex challenges. The concept of the next decade will be the urbanisation policy, based on widespread public participation and exploration through experimentation and joint development. Both urban development professionals and those working on urban policy will find new perspectives in *The New Era of Urban Policy* at a time when cities are more important to society than ever.



ÚRS PRAHA recently held a seminar focused on demonstrating the effective creation of construction budgets and calculations, inventories of public works, evaluation of tenders, monitoring of costs during implementation and valuation of BIM-designed buildings, using the latest SW KROS tools and the ÚRS Pricing System.

Construction software KROS 4 is designed for creating budgets, calculations of construction work and tracking construction orders. It is the only software (SW) in the Czech Republic containing the complete form of the ÚRS Price System and able to work with any other database of construction work prices.

The program consists of modules that cover the entire construction process – from rough cost planning to implementation. It is designed for construction companies, investors, designers, budgeters and other participants in the construction proceedings.

The basic characteristic of the KROS 4 program is the comfortable work with the regularly updated database of the ÚRS Pricing System, which has a tradition of more than 50 years in the Czech Republic. The program ranks among the top construction SW in the Czech Republic, where it has over 10,000 users, and in the Slovak Republic, where it is also the most used construction SW on the market.

On 9 September 2019, the 30th FOR ARCH Building Fair was held at the PVA Expo in Letňany, Prague. The branch of construction SW and documents for valuation of construction production was the only company represented by ÚRS CZ.

The exhibition enjoyed considerable interest among visitors mainly from the professional construction public from all over the Czech Republic. Continually, and in terms of content and user experience, the ÚRS Pricing System and the 4th Generation of KROS for 2019 were introduced to the public in the process of preparation, construction and control of orders. Our experts answered questions, demonstrated applications, discussed the above news, the possibilities of their effective valuation and construction management.

The great interest of visitors in products and services confirmed that ÚRS is consistently perceived as a professionally qualified, stable and promising partner with an irreplaceable position in the market for building materials and tools.





GAEB DA XML serves to agree on a uniform standard for the exchange of construction information and thus to support all requirements for electronic processes for tendering, awarding and accounting in the execution of construction projects. GAEB DA XML describes data exchange processes that make it possible to transfer complex structures in the internationally recognised description language **extensible mark-up language (XML)**.

XML files can be electronically encrypted and securely signed.

In the new issue "GAEB DA XML Version 3.3," the developments in the area of digitisation, Building Information Modelling (BIM), the results of the practical application of the previous regulations, as well as contributions and suggestions of the users were considered. All previous regulations on data exchange are no longer technically supported by the GAEB. A compatibility with the syntax of the previous regulations including XML 3.2 does not exist.

The GAEB has created a standard version 3.3, which makes a significant contribution to the linking of tender and LV data with the component-oriented approach of the building information models and thus promotes acceptance in national and international construction. The GAEB recommends that this standard be used as a guideline for the creation of new program systems, and that existing program systems be adapted as part of an update. The regulations will continue to be updated according to the requirements of all parties involved in the construction. The GAEB office gladly accepts changes or additional requests.

The revised version GAEB DA XML 3.3 also includes the following new data exchange phases:

- X50 construction cost catalogue
- X51 costing

For the sake of clarity, the exchange phases are grouped into thematic packages

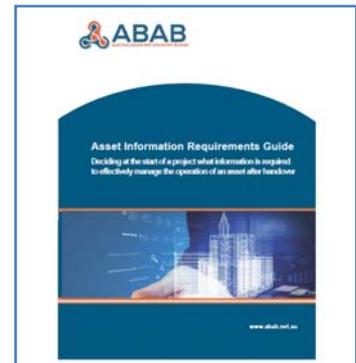
- Professional documents
- Package Service List (LV) | Issue 2019-05
- Package Trade | Issue 2019-05
- Package costs and calculation | Issue 2019-05
- Package Quantity Determination | Issue 2019-05
- Package invoice | Issue 2019-05
- Package Time Agreement | Issue 2019-05
- Package price level (beta)
- Package Roombook (Beta)



ICPMA Awards

ICPMA's 2020 Awards program has now been launched. The Alliance Award rewards projects that have been, or are being, delivered by professionals working together in a spirit of cooperation and teamwork. The IQ Award focuses on projects or initiatives that are using innovation to drive quality.

There is no entry fee payable and the Awards are open to members and non-members. Being recognised as a winner brings real potential for positive PR for both consultants and clients. Both large and small projects are welcome and a list of previous winners can be found at www.icpma.net. Entering either Award requires just a brief 100-word initial abstract summary.



The purpose of this Australasian BIM Advisory Board (ABAB) Guide is to assist clients and their consultants to define their Asset Information Requirements (AIR) to take advantage of BIM's capacity to capture and deliver asset data.

The primary audience of this Guide:

- clients, their agents and lead consultants who have relatively limited experience in using BIM to deliver information for operational purposes
- clients who do not have well-developed statements of organisational information requirements (OIR), asset management strategies, AIR, existing data standards, etc.



Green Success

Various green conversion projects are constantly being implemented throughout Denmark. These projects typically involve local actors such as civic groups, housing associations, property owners, local craft companies, municipalities, etc.

In the project Green Success, which is financed by the non-profit fund Energy Fund, the experiences from a number of successful green conversion projects are gathered, including changes in energy supply, energy efficiency, behaviour changes, joint ownership of green plants and much more. In many cases, these are projects where the construction industry plays a big role.

The experience is gathered in two booklets, which can be used as inspiration if you want to start a green conversion project. You can read about the twelve distinctive elements of a typical project process as well as the six recommendations that can be used regardless of the type of project.

“Local conversion: How to succeed” – This booklet is designed as inspiration for the many different actors in the local community who want to initiate a green restructuring project. The projects may include, for example, a change of energy supply, energy efficiency, behaviour changes, joint ownership of the RE plant and much more. The booklet provides inspiration on how to succeed in implementing local green transition projects based on local commitment and local forces of citizens, business and municipalities.



“Local change: How your municipality will succeed” – The municipality's role in collaborating on a green restructuring project is different from the roles of other local actors, as the municipality's way of acting in collaboration with – and in helping – these projects can determine whether the projects end successfully or must be abandoned. If the municipality understands the way the local actors work together to carry out a project, it will be much easier for the municipality's politicians and employees to contribute constructively and positively to the local process. This booklet provides information on how a municipality can support and collaborate with local stakeholders to succeed in implementing local green redevelopment projects based on local commitment and local efforts of citizens, businesses and others.



The EU BIM Task Group General Assembly met in Brussels on the 2nd of October to exchange knowledge regarding the latest public sector initiatives aimed at digitalizing the construction industry. www.eubim.eu



Normpositionen-Katalog

Carlo Peer

The Normpositionen-Katalog (NPK) by CRB is used to specify construction works and services in terms of type, quantity and quality. The following article highlights its suitability as a basis for issuing complete, clearly structured and easily understandable calls for tenders, including from a legal perspective.

Through the specification of construction works and services, the client communicates to the tendering contractors, as part of the call for tenders, their construction requirements in terms of quantity and quality. The fact that this frequently involves the use of a bill of quantities underlines the outstanding importance of this document in construction practice.

A “clear call for tenders” cannot, of course, be understood to mean a submission that eliminates all misunderstandings and completely prevents any later disputes. Indeed, by this definition, a call for tenders could only be deemed “clear” if it met the expectations of both client and contractor teams. Such a notion is utopian.

In the following, therefore, the expression “clear call for tenders” should not be interpreted in its strictest terminological sense, but as carrying a more modest connotation. The essential question is whether, from a legal perspective, the NPK paves the way for a clearly structured and transparent tendering procedure that minimises misunderstandings between the project partners and prevents disputes.

Benefits of specifying with NPK

Although the NPK is not the only system of its kind in Switzerland, it offers a standardised and widely used method for preparing bills of quantities. It includes over a million standard specification items embracing all areas of building construction and civil engineering, including underground works and building services. On the basis of existing production information

(tender drawings, project description, etc.), it uses preformulated text blocks for individual standard items to prepare a bill of quantities covering all the works and services required of the contractor in delivering the construction project. As such, the NPK provides the framework for preparing calls for construction tenders by means of bills of quantities.

Rationalisation of tendering procedure

Breaking down construction works and services into individual items is a complex process requiring in-depth technical expertise on the part of the specifier. As a general rule, the more complex the works for tendering, the more detailed the specification of the individual items. The availability to users of standard preformulated descriptions of construction works and services vastly simplifies the breakdown of the required site operations and rationalises the process of issuing calls for tenders.

Moreover, by virtue of the standardised text items in the NPK, contractors are able to import bills of quantities directly into their pricing software, where the prices for the individual works and services can be determined. The rationalisation effect thus extends to tender submission and the entire tendering procedure.

Legal certainty

With its uniform wording, structure and breakdown, the NPK helps to ensure that the parties involved in the tendering procedure (architect, engineer, client, contractors, etc.) achieve a better and, above all, the same understanding of the bill of quantities.

On the one hand, this minimises the risk of gaps and inconsistencies in the bill of quantities. On the other hand, the use of standardised text items lends the call for tenders greater legal certainty by creating clarity, consistency and predictability in the breakdown of construction works and services into individual items.

Adaptation and feedback from practice

The NPK work sections are subject to constant change. At the instigation of the professional and trade associations, new NPK work sections are created and existing ones revised. To this end, experts from the designer and contractor communities – who are joined, for the civil engineering disciplines, by client representatives – collaborate in working groups.

This ensures that the NPK is duly amended and extended as required. At the same time, feedback from practice and expert input from the working groups allow errors to be eradicated. This process serves to enhance the quality of the NPK and, ultimately, that of NPK-based tendering processes.

As the NPK data are subject to a uniform ID coding system, users can clearly recognise when a particular NPK work section was published (edition year) and which version is being used (version year).

The NPK contains preformulated, standardised text blocks, all of which are available in digital form. It thus forms the basis for preparing digital bills of quantities that can be made freely accessible to all project parties to provide them with a definition of the specified scope of works and thereby enable them to better coordinate their actions. With the NPK, this is achieved through the use of certified software programs and the NPK-Editor, which provide for the digital exchange of bills of quantities between the project parties.

This digital data transfer creates a transparent situation that facilitates the recognition of errors, gaps and inconsistencies in the bill of quantities as early as the tendering stage and thus contributes to the avoidance of disputes.

[continued next page](#)



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Normpositionen- Katalog continued

Residual risks attached to NPK-based tendering

Bills of quantities are inherently incomplete because (like other tender documents) they anticipate certain facts about the project to be delivered. Naturally enough, such facts are subject to a degree of uncertainty. In addition to gaps in the specification, further problems may include contradictions between the bill of quantities and other tender documents (e.g. drawings, standards, special regulations, etc.).

Clients, in particular, are thus exposed to significant risks from contract addenda if the bill of quantities – which they themselves supply and which sets out to define the works and services required of the contractor – contains errors, gaps or inconsistencies. This is because contractors essentially bear no responsibility for flaws which they cannot reasonably be expected to recognise in a client-prepared bill of quantities. Indeed, contractors are entitled to additional remuneration for any extra, i.e. not originally specified, works (addendum price). They may also be entitled to put forward claims for any other inaccuracies or inconsistencies in the bill of quantities.

The client even remains subject to these risks where standard specification texts, such as those in the NPK, are used. Although the NPK can help to produce a clear call for tenders and minimise the associated risks as well as those during the later construction phase, its use still fails to rule out all possible risks.

Given that “all-inclusive” clauses in contracts are of only limited help in eliminating the client’s addendum risks, construction industry players are quite rightly intensifying efforts to optimise coordination between the project parties by means of comprehensive digital design methods (e.g. BIM). From a legal standpoint, it would be desirable for the NPK to keep pace with these developments, particularly with a view to improving coordination. The “Component-based Tendering” innovation project focuses on this issue. Until this yields concrete results, only the conventional means of preparing a call for tenders with the existing NPK will be available to users of digital design methods.

Conclusions and recommendations

That the NPK offers a sound basis for clear calls for tenders – including from a legal perspective – is hardly disputable. Specifically, the errors, gaps and inconsistencies that commonly occur in the preparation of

bills of quantities and affect the tendering process can be minimised through the use of preformulated standard tools such as the NPK. This, together with the time savings achievable with the NPK, is one reason why this system will continue to increase in importance in the future.

The NPK nonetheless offers no miracle solution for producing clear calls for tenders. Preformulated standard texts may serve to minimise errors, gaps or inconsistencies in bills of quantities, but can never completely eliminate them. Ultimately, even for NPK-based tendering, the crucial issue will always be whether the project parties are willing, during the tendering procedure, to coordinate their expectations and actions in such a way as to promote transparency and comprehensibility in the process. Transparent communication should also include a joint examination of the bill of quantities and coordination of tender documentation with the aim of minimising errors, gaps and inconsistencies. Here, a written record is advisable – both for evidence purposes and because changes made during the tendering procedure tend to be forgotten by the time of contract signature.

Planbim Chile

EXPOEDIFICA 2019 was the setting for the launch of the e+bim project, an initiative that is led by Planbim together with the Executive Secretariat of Technical-Professional Media Education (EMTP) of the Ministry of Education of Chile.

The e+bim project is part of Planbim’s Human Capital Training Strategy, which aims to promote the teaching of BIM (Building Information Modelling) methodology and new technologies on information management in technical lyceums that teach specialities related to the area of construction throughout the country.

Carolina Soto, Executive Director of Planbim, emphasises, “Our desire is that this initiative be the initial kick-off to align students’ competencies with the requirements of the new construction industry 4.0, promoting the updated curricula through the incorporation of BIM and collaborative learning between teachers and students to expand the skills and job opportunities of public lyceum students in our country.”



Building a Greener Future

Emma Green, NATSPEC Communications

Climate change is not slowing down, but neither is Australia's population – and people are the main cause of global warming. We build houses and other structures in which to live, work and play. This is necessary, but the fact remains that the construction industry is not generally associated with sustainability. The built environment produces about 40 per cent of the world's harmful greenhouse gas emissions, and construction is not slowing down any time soon.

In order for the construction industry – and the country as a whole – to help mitigate the considerable effects of climate change, building professionals must implement sustainable practices. Many, if not most, already do, with Australia being a world leader in sustainable development. The term “sustainable development” was coined in 1987 by the United Nations' Brundtland Commission. Sustainable development is development that “meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Five years later, in 1992, the Council of Australian Governments endorsed the following definition of ecologically sustainable development (ESD): “using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.” NATSPEC, the administrator of the National Building Specification, adopts this definition in the TECHreport TR 01 Specifying ESD, available for free at www.natspec.com.au. In the generation that has passed since we started thinking about sustainability, its importance has only increased.

Australia ratified the 2017 Paris Climate Change Agreement, making a commitment to keep the global temperature rise to less than 2°C above pre-industrial levels. However, we should not need a multilateral agreement as an incentive. The average temperature in Sydney, for example, is expected to rise by 3–5°C by the 2050s, which will significantly increase the demand for cooling energy. It is essential to design and construct buildings that help to reduce this energy demand and alleviate the stress it already causes to the planet.

The sustainability of a building is its design, materials, construction and operation all considered together. A building can be constructed in an environmentally friendly manner, using appropriate materials and taking steps to reduce waste, but if it cannot be operated and maintained sustainably, then it is not sustainable development. All elements of a sustainable building should be fit for purpose and durable; components that will need frequent replacement are neither environmentally nor economically sustainable.

Ensuring a building is fit for purpose means taking its context into consideration. A warehouse must be constructed differently from an art gallery, which in turn is different from a school. With the context understood, it is far easier to ensure that each part of the building, as well as its entire structure, suits its intended purpose. This is an indispensable part of the process when designing and constructing a sustainable building.

To ensure a structure is sustainable from the very beginning of the process, design and construction professionals must use specifications. The specification's role is to enable the full sustainability potential of the design to be achieved. NATSPEC maintains the National Building Specification, a comprehensive construction specification system that is updated twice yearly to incorporate the latest changes to standards, legislation, industry practices and the NCC. With specifications, the specifier can clearly indicate the sustainability requirements for each building component. Specifications can be used to stipulate the desired durability and quality, select environmentally preferable products, as well as include requirements for reuse, repair and recycling.

The National Building Specification's worksections incorporate sustainability provisions and indicate opportunities for specifiers to select sustainable options for materials, water conservation and energy efficiency. NATSPEC presents specifiers with impartial information so that they can make informed decisions. As part of its aim to improve the construction quality and productivity of the built environment, NATSPEC is currently conducting a research project into the use of recycled materials in local council road works. This will lead to the development of AUS-SPEC specifications that will help local governments to achieve their sustainability goals.

NATSPEC specifications are clear and concise, and can be edited to suit a variety of projects. They facilitate communication between all participants in a building project by ensuring everyone uses the same specification language. The sustainability vision is easily understood and all people involved become part of improving the relationship between the built environment and the planet.

NATSPEC is a not-for-profit, Government- and industry-owned organisation. It maintains the National Building Specification and has been a valued part of the Australian construction industry for over 40 years.



**Use of recycled materials for
roadworks in local government**