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**CEIOPS Level 3 Guidance on Solvency II:  
Pre-application process for Internal Models**

(former Consultation Paper 80)

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# 1. Introduction

## 1.1. Status of this paper

- 1.1. CEIOPS is a Level 3 committee, and issues supervisory standards, recommendations and guidelines to enhance convergent and effective application of the regulations and to facilitate cooperation between national supervisors ("Level 3 activities" under the Lamfalussy process). This guidance is one of the tools used to increase supervisory convergence. It is not binding on Supervisory Authorities, but does present an opportunity to harmonise outcomes from Supervisory Authority decisions. This is particularly important for the assessment of internal models, where many applicants will have internal models that cover risks and (for groups) undertakings in different Member States.
- 1.2. As the Level 3 guidance is available to be read by stakeholders, it can also give assistance to undertakings and other stakeholders as to how to interpret the Level 1 and draft Level 2 regulations and Directives. This is important for internal models, as CEIOPS has seen from its work on the Stock-taking report<sup>1</sup> and from its pre-visits programme that many undertakings are already using or developing internal models with a view to applying to use them to calculate regulatory capital. In addition, CEIOPS has received many questions from stakeholders about how supervisory convergence will be achieved, particularly in respect of internal model approval.
- 1.3. Although the Level 2 measures have not yet been agreed, CEIOPS considers that it is important to publish this guidance now. The European Commission has also indicated that they consider the pre-application process to be important and that they would welcome guidance from CEIOPS in this field.
- 1.4. To assist Supervisory Authorities, the paper has a Section (Section 2) on the legal aspects of introducing a pre-application process prior to their implementation of the Framework Directive.

## 1.2. What is the pre-application process?

- 1.5. In the final advice on the approval process, CEIOPS set out the key features of the pre-application process<sup>2</sup>. The proposed pre-application process is voluntary for undertakings, and an undertaking is able to submit an application to use an internal model without having gone through the pre-application process. The aim of the pre-application process is for Supervisory Authorities to give a view on how prepared the undertaking is to submit an application. Two key points need to be highlighted:

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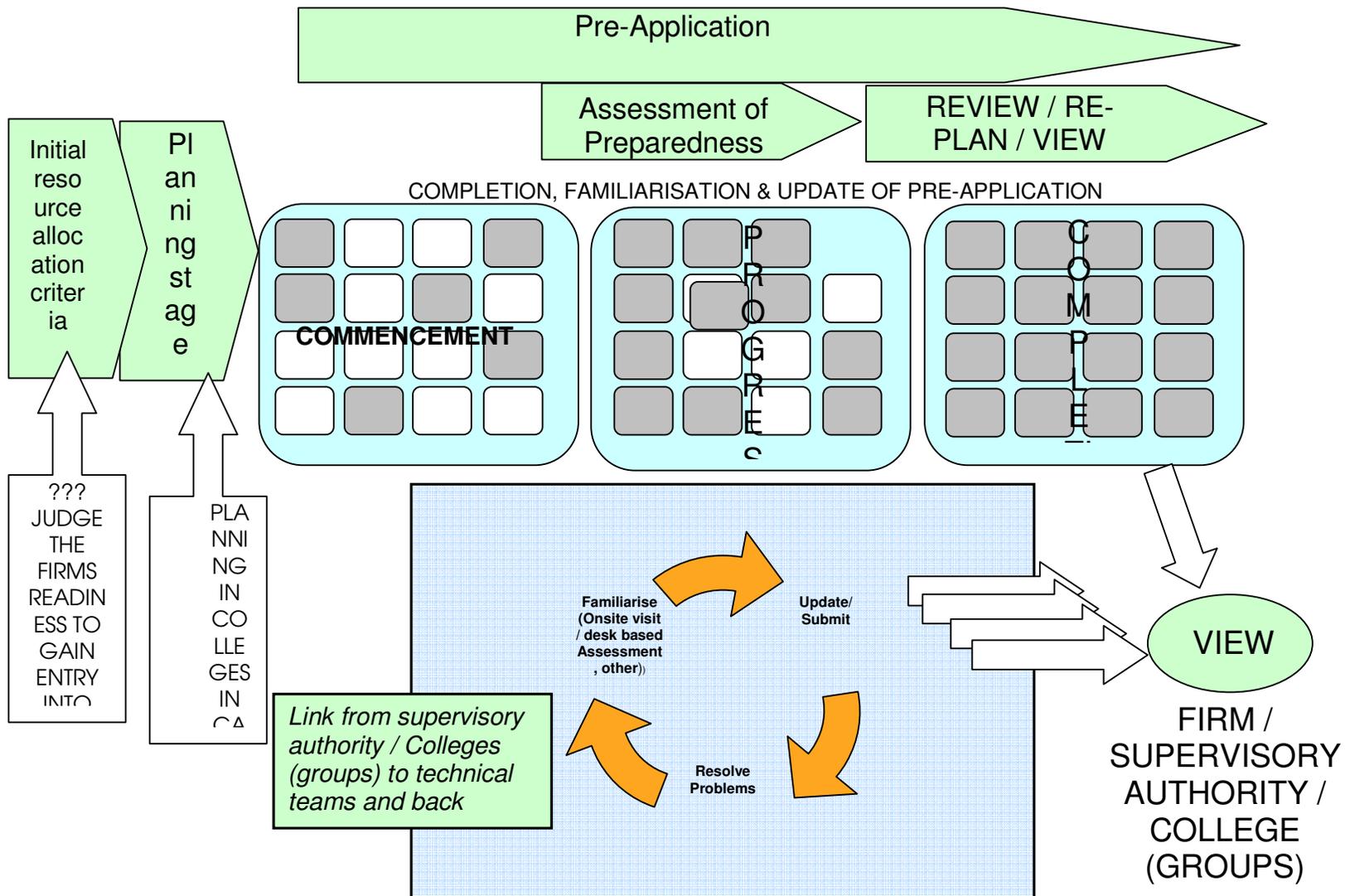
<sup>1</sup> <http://www.ceiops.eu/media/files/publications/reports/Stock-taking-report-on-the-use-of-Internal-Models-in-Insurance.pdf>

<sup>2</sup> <http://www.ceiops.eu/media/files/consultations/consultationpapers/CP37/CEIOPS-L2-Final-Advice-Procedure-approval-internal-model.pdf>

- **Participation in the pre-application process does not guarantee approval after the formal application is submitted; hence pre-application process is not a pre-approval process**
  - **Undertakings need to prepare for the eventuality that their internal model as applied for may not be approved and set up processes to calculate the standard formula SCR as well as consider the capital planning implications of the result.**
- 1.6. CEIOPS emphasises that a view from the Supervisory Authority that the undertaking is prepared to submit an application does not imply that approval will be granted, as a pre-application process is not a pre-approval process. The Supervisory Authority's view will however be communicated to the undertaking, so that the undertaking is aware of how prepared it is to submit an application for the use of the internal model for SCR calculation. Similarly, a supervisory authority view that the undertaking is not prepared for submission of an application does not prevent an undertaking submitting an application and conceivably gaining approval to use it to calculate the SCR.
- 1.7. Alongside this it is worth emphasising that undertakings should ensure that they have the ability to calculate the standard formula SCR to the required standard for the period before approval of the internal model. In addition, undertakings should plan for the eventuality that the internal model application is rejected, or there is partial approval. In this case, not only will the standard formula SCR calculation be needed, but there may be capital planning implications. For undertakings that originally planned to apply to use a full internal model and subsequently apply to use a partial internal model, there are additional requirements to be fulfilled and the undertaking will need to plan to do this, as well as planning to integrate the results from the partial internal model with the standard formula<sup>3</sup>.
- 1.8. In some countries the Supervisory Authority may be unable (due to legal considerations) to give a view on the preparedness of the undertaking to submit an application. Nevertheless it may be ready to enter into a dialogue with undertakings developing internal models. This dialogue may encompass a review process with feedback on deficiencies in the internal model. Some provisions of this guidance are clearly not applicable in this case. Others do not really depend on the type of output that the process produces. In the situation described the provisions of this guidance shall apply to the extent possible.
- 1.9. CEIOPS considers that the flowchart in below will prove useful to Supervisory Authorities in developing their plans for a pre-application process and in working with other Supervisory Authorities on the pre-application process for group internal models. The flowchart should also be useful for undertakings when planning for the pre-application process internally.

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<sup>3</sup> <http://www.ceiops.eu/media/files/consultations/consultationpapers/CP65/CEIOPS-CP-65-09-Draft-L2-Advice-Partial-Internal-Models.pdf>



- 1.10. The initial stage of the pre-application stage is the allocation of supervisory resource. In this paper (Section 3) CEIOPS indicates some of the areas that Supervisory Authorities could consider when deciding what type and how much resource to allocate to the pre-application process for an undertaking.
- 1.11. The flowchart also shows the importance of planning the pre-application process. Based on the information gathered by CEIOPS for the Stocktake report and during the programme of pre-visits, CEIOPS has seen the wide diversity of internal models in undertakings. This makes it virtually impossible to develop a single pre-application process that would work for every undertaking, group of undertakings and every full internal model and partial internal model. Thus, the approach taken puts a lot of importance on the planning needed by Supervisory Authorities, as well as the communication between Supervisory Authorities and undertakings during the process.
- 1.12. In the advice on the approval process for internal models, CEIOPS recommended that the initial discussion during the pre-application process should include discussion of at least the following information:
- a) An indication that the undertaking intends to apply for approval to use its internal model to calculate the SCR and when it plans to apply.
  - b) The scope of the proposed internal model application, including which risks, entities, lines of business and/or major business units are covered by the model.
  - c) An initial view from the undertaking on how the internal model meets the requirements for approval in the Level 1 text (i.e. a self-assessment of internal model readiness). The self-assessment of internal model readiness will not be a substitute for the internal model requirements in the Level 1 text. CEIOPS recognises that, until the Level 2 implementing measures are finalised, undertakings may have to provide this self-assessment against a "moving target". However, CEIOPS considers that the pre-application process as described in this paper can only be of assistance to undertakings wishing to apply to use an internal model.
  - d) The undertaking shall also be able to explain their concrete, or base-lined<sup>4</sup>, project plan for meeting the internal model requirements by the date of the application.
  - e) Any information the (re)insurance undertaking deems necessary and relevant to understand the model at the provisional stage of pre-application (e.g. a draft of the information to be submitted later for the internal model approval application). An undertaking indicating that they intend to apply for internal model approval should be expected to be on the way to preparing the documentation for the application.

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<sup>4</sup> This means that any plan is agreed and would need to go through a change control process in the event of a change

- f) Access to any draft documentation of the internal model as set out by Article 125 of the Level 1 text. This may give the Supervisory Authority more information about how the internal model works, or is planned to work. The documentation might be of technical aspects of the internal model, or of other aspects such as governance.

1.13. More information on the information Supervisory Authorities would normally review is provided in Section 5.

### **1.3. What is covered**

1.14. This paper covers the pre-application process for undertakings covered by Solvency II who are planning to apply for approval to use an internal model to calculate the SCR:

- a) for full and partial internal models
- b) for solo and group internal models
- c) for pre-applications prior to the implementation of the Solvency II regime and for pre-applications after the full transposition of the Level 1 and Level 2 measures.

### **1.4. What is not covered**

1.15. This paper does not directly cover:

- a) the application, assessment or decision processes for the approval of an internal model
- b) the tests and standards for approval of an internal model. More guidance will be produced on these at a later date.

### **1.5. Why issue guidance?**

1.16. This paper sets out CEIOPS' thinking about the pre-application process for internal models, as outlined in the advice to the European Commission on the approval process to be followed for an internal model<sup>5</sup>. In that advice, CEIOPS set out a key part of the approval process – the pre-application process. CEIOPS' rationale was to assist undertakings and Supervisory Authorities as explained:

*"To ensure that the approval process for both the undertaking and its Supervisory Authority is conducted in an efficient, coordinated and effective manner, Supervisory Authorities will need to spend significant amounts of time reviewing the internal models against the requirements in the Level 1 text, as well as reviewing the undertaking's risk management framework.*

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<sup>5</sup> <http://www.ceiops.eu/media/files/consultations/consultationpapers/CP37/CEIOPS-L2-Final-Advice-Procedure-approval-internal-model.pdf>

*To facilitate this process, many undertakings have suggested during the preparation of the stock-taking exercise that they would welcome a period of engagement with Supervisory Authorities prior to the submission of their formal application, to enable them to develop and refine their internal model practices in preparation for meeting Solvency II requirements.”*

- 1.17. In the feedback to CP37 (CEIOPS’ draft advice), stakeholders commented favourably on the idea of a pre-application process and welcomed the idea. Stakeholders emphasised their view that the pre-application process should not be a device to lengthen the six-month assessment period, and also their desire for consistency of outcomes in internal model assessment by Supervisory Authorities.
- 1.18. Thus, this background material should facilitate the preparations for implementation of Solvency II in Supervisory Authorities and in undertakings, as well as providing early guidance for the pre-application process after the implementation of the Solvency II regime.

## **1.6. Why issue guidance now?**

- 1.19. CEIOPS has seen that many undertakings are investing in their internal models and welcomes this. CEIOPS is pleased that undertakings see the benefits to decision-making and risk quantification of using an internal model to assess economic capital requirements. However, CEIOPS is keen that undertakings are aware of the costs and benefits of developing an internal model and applying to use it to calculate the SCR. The analysis of costs and benefits should include quantitative and qualitative aspects, for example, a qualitative benefit might be better risk management whilst a qualitative cost might be the need for training in the use of the internal model.
- 1.20. CEIOPS also understands that undertakings are keen to have more guidance about how Supervisory Authorities will assess internal models for Solvency II in order to avoid allocating much of their human and financial resources in designing and implementing internal models that will not comply with the eventual requirements.
- 1.21. CEIOPS has surveyed the 30 Supervisory Authorities of the EEA as to their preparations for internal model approval. It is clear that many Supervisory Authorities are already engaging with undertakings about their internal models. In order to increase the consistency of the review, and, most importantly, the outcomes of the reviews, CEIOPS considers that it is important to publish this guidance now.
- 1.22. In addition, CEIOPS is aware that the complexity of many group undertakings and their internal models makes the guidance proposed on the pre-application process for group internal models of particular interest. In the paper, cross-border aspects are covered and a proposal made as to how the pre-application process could work here. This reflects the input from stakeholders during the research done for the stocktake report and during the pre-visits undertaken. CEIOPS also recognises the appetite of

group undertakings for early engagement with Supervisory Authorities on their internal models, and their desire for clarity around the process.

## **1.7. Benefits to Supervisory Authorities**

- 1.23. The information reviewed (See Section 5) will enable the Supervisory Authority to form a view on how prepared the undertaking is to submit an application. In order to be in a good position to form a view on the preparedness of the undertaking, the Supervisory Authority will need to have a thorough understanding of how the technical characteristics of the model function, as well as all the other processes around the model, including for example, how it is used in the business and how it is documented. An example of the understanding gained will be around the transparency of the internal model, for example, where external models and data are used in the internal model, or how much of a "black box" the calculation kernel is.
- 1.24. CEIOPS considers that giving Supervisory Authorities the opportunity to review of information relating to an internal model at an early stage can only be helpful. Supervisory Authorities will be able to see internal models at a relatively early stage of development, enabling assessment during the application stage to be done from a position of knowledge.

## **1.8. Benefits to undertakings**

- 1.25. The pre-application stage to the approval process will benefit undertakings by giving them the opportunity to liaise with their Supervisory Authorities as they develop and embed their internal models and prepare their application for approval. CEIOPS is of the view that the pre-application stage should be helpful to undertakings planning to apply to use an internal model. The feedback on CP37 (draft advice on the approval process, where CEIOPS mooted the idea of a pre-application stage) was very positive, although stakeholders were keen that the pre-application was not used as a means of extending the six-month period from receipt of a complete application to decision.
- 1.26. In CEIOPS' view, the pre-application stage will allow undertakings to get an early view on their internal model application and their preparedness to apply. Bearing in mind the complexity of many internal models and the amount of money and time being spent on developing these internal models, knowing early that the internal model is or is not on the right track to meet the Solvency II requirements for use in calculating regulatory capital must be a good thing. This will facilitate the risk management function to report regularly to the administrative or management body (board) about the progress against the plan for implementation of the internal model. In particular, this reporting will be able to cover gaps in planning, in the modelling framework and in the internal model requirements. In addition, an effective pre-application process may facilitate a more efficient assessment post-application, all other things being equal.

- 1.27. Another benefit to undertakings is that they will understand at an early stage how the supervisory authority proposes to approach the assessment of the internal model, in particular, in respect of external models and data used in the internal model.
- 1.28. In addition, if the Supervisory Authority is of the view that the undertaking is not prepared to submit an application, the undertaking is still entitled to submit one.
- 1.29. Should the undertaking decide that they will not submit an application for the internal model as originally planned, and so revert to the standard formula for some or part of the SCR, then knowing this early enables the undertaking to set up the processes needed to calculate the SCR and put appropriate capital planning in place.

## **2. Discussion of the legal background pre and post implementation of Solvency II, and the links to potential future Level 3 guidance**

### **2.1. Legal background**

- 2.1. CEIOPS considers that it would be useful guidance to Supervisory Authorities to set out an analysis of the legal basis for a pre-application process as it is not referred to in the Level 1 Directive, and how this may differ between the periods prior to and following implementation of the Level 1 Directive.
- 2.2. This analysis does not take into account any restrictions or procedural matters that may exist within Member States' domestic legal or regulatory regimes, and Supervisory Authorities should obtain their own legal advice if they have any queries in this regard.

### **2.2. Following implementation**

- 2.3. Following the deadline for transposition of the Level 1 Directive, Member States will be required to have brought into force the laws, regulations and administrative provisions necessary to comply with the Level 1 Directive. However, the Level 1 Directive is silent about a pre-application process although there is no prohibition on creating a pre-application process. The Commission has confirmed that it does not view a pre-application process as inconsistent with the Level 1 Directive and it is expected that the Level 2 implementing measures will provide for such a process. CEIOPS believes that all Member States will wish to introduce their pre-application process as soon as possible. It is important to note that the pre-application process contemplated by CEIOPS is optional, in that insurance and reinsurance undertakings will be under no obligation to go through pre-application before submitting a formal application (although they may be encouraged to do so). A pre-application process that is compulsory on undertakings is less likely to be viewed as consistent with the Level 1 Directive, as it places additional requirements on undertakings before they are permitted to use an internal model to calculate their SCR, and those requirements are not authorised by the Level 1 Directive.
- 2.4. Member States will need to consider whether, in the context of their own regimes, it will be necessary to legislate for a pre-application process or whether their Supervisory Authorities will have sufficient powers without specific legislation. Any such legislation or changes in rules will of course need to follow established administrative and public law procedures applicable to the Member State.
- 2.5. Once the necessary authority and powers are in place, the Supervisory Authority should introduce the pre-application regime into its regulatory system. CEIOPS recommends that the regime is kept as flexible as

possible to ensure an appropriate level of interaction between applicants and the Supervisory Authority.

## **2.3. Prior to implementation**

- 2.6. There are essentially two reasons why the pre-application could be conducted in advance of Solvency II's inception: early implementation of the procedural elements of the internal models regime and preparatory work to ensure a smooth transition.

### **Early implementation**

- 2.7. The Level 1 Directive requires Member States to have implemented the Directive by an agreed deadline. This does not preclude Member States from bringing certain parts into force on an earlier date, provided that they do not conflict with the existing Solvency I regime. In particular, it should be possible to implement procedural provisions relating to the pre-application and model approval process, whilst maintaining the prudential rules derived from the existing insurance Directives, so that undertakings can apply for and receive permission to use an internal model to calculate their SCR on the Solvency II basis, but the SCR will not actually become the regulatory capital requirement until the new rules are brought into force.
- 2.8. If Member States choose this option, the same considerations as are set out above under "Following implementation" will apply.

### **Preparatory work**

- 2.9. If a Member State decides not to bring about any changes to their laws and regulations in advance of the transposition deadline, it may still be possible for the Supervisory Authority to conduct preparatory work with a view to ensuring a smooth transition to the new Solvency II regime. This will depend to a very large degree on the mandate given to the Supervisory Authority under the existing framework.
- 2.10. If a Supervisory Authority has sufficient ability to carry out work that is not strictly required by its current rules, CEIOPS believes that the authority could encourage dialogue with the undertakings it regulates with a view to improving the quality of the undertakings' application, even without a formal pre-application process being in place. One consequence of pursuing this option is that Supervisory Authorities are unlikely to have the power to take a decision on a model application before the relevant laws and regulations are in force. This is likely to mean that although preparatory work (the pre-application) can be conducted, a formal application can only be made and the approval can only be given once the new regime is in force. This may give rise to increased uncertainty for undertakings who will not know until the last moment whether they have successfully obtained approval for the use of their internal models. This may also mean that contingency plans need to be in place so that undertakings can calculate an SCR in accordance with the standard

formula until such time as their model is approved and also consider the capital planning implications of the result.

## **2.4. Cross-border groups' internal models**

- 2.11. There is a further complication for a group that includes undertakings in more than one Member State and wishes to use a group internal model to calculate their group and solo SCRs. Following the transposition of the Level 1 Directive, the group's college of supervisors will assess the group's readiness in a pre-application process and ultimately will try to reach a joint decision on the application itself, failing which defined procedures in the Level 1 Directive (including the possibility of CEIOPS being consulted for advice) apply. However, in the period before transposition, the provisions setting out how a college of supervisors will operate will not have been brought into force. However CEIOPS believes that a pre-application process can be agreed and implemented within the relevant Coordinating Committee of supervisors without the need for any additional mandate. However, if the Level 1 and Level 2 measures are not transposed into national law in a Member State where a group internal model operates, there is unlikely to be approval of a group internal model shortly after the first date of operation of Solvency II.
- 2.12. It appears to CEIOPS that there are two practical ways in which the relevant Supervisory Authorities might be able to consider a group pre-application and ultimately come to a view on an application for approval before full transposition. Nevertheless, it would be necessary in both of these ways to have unanimous agreement between the relevant Supervisory Authorities. This agreement – which depends only on the decisions of the Supervisory Authorities – would avoid the difficulties that would arise if a Supervisory Authority disagreed in the absence of the formal dispute resolution mechanisms set out in the Directive. CEIOPS foresees a role for itself in facilitating this and discusses it in more detail in Sections 4 and 6 below.
- 2.13. The first process is effectively an informal consultation within the existing Coordinating Committee of supervisors. CEIOPS envisages that Supervisory Authorities will consider the pre-application and the state of readiness of the group within the Coordinating Committee. Supervisory Authorities that have not brought the relevant procedural rules into force may nevertheless be able to give comfort that they will start the assessment of the application with the college of supervisors at the first available opportunity following transposition.
- 2.14. The alternative requires all the relevant Member States to have implemented the applicable Sections of Solvency II in advance of the transposition deadline. The pre-application will still be dealt with by the existing Coordinating Committee, but CEIOPS considers that in these circumstances, and provided all relevant Supervisory Authorities agree, the joint decision of those authorities is equivalent to a joint decision reached by the college of supervisors. Approval can therefore be given to use a group internal model immediately following transposition if they are

satisfied that the internal model meets all the requirements set out in the regulatory framework.

## 3. Criteria for Resource Allocation

### 3.1. Introduction

- 3.1. It can be expected that many undertakings will want to participate in a pre-application process. CEIOPS wants to promote the use of internal models whenever it results in a better reflection of the risk profile. As the pre-application facilitates the development of internal models it would – in principle - be desirable to review the internal models of all undertakings that are interested. Yet the resources of supervisors need to be used efficiently and effectively, and/or not every firm will have an internal model that is ready to be reviewed in the pre-application. Therefore the allocation of these resources may have to be based on suitable criteria<sup>6</sup>.
- 3.2. It must be stressed that such criteria are not necessarily a hindrance from an undertaking's perspective: If the supervisory resources reviewing the internal model increase with a better developed model there is an incentive for undertakings to push forward their model development.
- 3.3. As supervisory resources and the demand of undertakings will vary, the criteria used to allocate those resources will have to be flexible to take account of this. In addition, the resource allocation will take account of the scope of the internal model, including whether the internal model is a full or partial internal model.

#### *Intention to apply*

- 3.4. As a part of the resource allocation process the Supervisory Authority should ask the undertakings about their intention to apply. The intention to apply may include the following information, which the Supervisory Authority would find useful:
  - a) A statement that the undertaking intends to apply for approval to use an internal model to calculate the solvency capital requirement (SCR).
  - b) The intended date of submitting the application.
  - c) The intended scope and coverage of the application, including the functions intending to use the internal model.
  - d) Information to facilitate planning, e.g. undertakings' project plans of internal models.

### 3.2. Discussion of criteria

- 3.5. The applied criteria should have several desirable properties.
  - The criteria should allow supervisors to allocate their resources in an efficient and effective way;

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<sup>6</sup> The criteria set out in this Section do not apply to resources dedicated before the issuance of this guidance

- The criteria should ideally be objective and easy to evaluate. In this way, similar undertakings will have similar supervisory resources allocated.
- 3.6. The following paragraphs list a number of possible criteria and the reasoning behind them.
  - 3.7. One possible criterion would be the point in time when the undertaking first informed the Supervisory Authority of its interest in starting the pre-application phase. Other things being equal the earlier an undertaking indicated its interest the higher its chances of resources being allocated to review its internal model.
  - 3.8. This criterion ensures the efficient use of supervisory resources as it allows supervisors a stable planning of their pre-application activities. Moreover, it is objective and easy to evaluate.
  - 3.9. Supervisory Authorities should always have regard to the nature, scale and complexity of risks in different undertakings. This can be expected to inform the resource allocation. This could include reviewing the systemic importance of an undertaking<sup>7</sup>. However, Supervisory Authorities need to avoid the possibility that undertakings try to use this as a mechanism to make internal model approval unavoidable.
  - 3.10. A third criterion could be an undertaking's prospects for developing a reviewable, assessable or approvable model in a reasonable period of time, i.e., how achievable their implementation plan is and what planning timescales are being used. This prospect depends on the current model development state and the resources available for model improvement.
  - 3.11. The ultimate goal of the pre-application phase is for an undertaking to be prepared to submit an application. Using the criterion supervisors can help to maximize the number of prepared applications for a given period of time. Another point to mention is the fact that models in an early development stage are often subject to subsequent major changes. This produces redundancies in the supervisory review process during the pre-application.
  - 3.12. For the reasons given, it helps supervisors to use their resources efficiently if they take into account the undertaking's perspective for developing an approvable model in a reasonable period of time. As a drawback the evaluation of an undertaking's chances to develop an approvable model in a reasonable period of time is not easy.
  - 3.13. To judge the current model development state different criteria may be used. The following list contains a number of possible considerations:
    - a.) The undertaking has conducted an assessment of its own risks. This criterion is automatically met after transposition of the Framework Directive, when the ORSA becomes mandatory for all undertakings. The assessment must be comprehensive and sufficiently detailed.

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<sup>7</sup> Article 28 of the Framework Directive

- b.) The undertaking has conducted a self-assessment (as described in CEIOPS' advice on the approval process) against the Solvency II internal model requirements. The assessment should set out to what extent the current model meets the requirements and what adjustments are necessary. Particularly relevant in this respect are Articles 100–102 (calculation of SCR), Article 112(5) (risk management and governance) and Articles 120-125 (requirements for use of an Internal Model). Compliance is also required for the Level 2 Implementing Measures and Level 3 Guidance (as far as published). In the years leading up to the new Solvency regime, not all relevant requirements may have been passed. In this case - to avoid disproportional efforts - the undertaking could use the CEIOPS suggestions as reference unless there are clear indications that the final requirements will differ. These may include:
- The undertaking has installed a risk management system that complies to a large extent with the requirements set out in Article 44 (1), or has a plan to do so.
  - The undertaking is able to explain why its risk profile is better captured by the planned (partial) internal model than by the standard formula.
  - Senior management has a sufficient level of understanding of the planned model. The assessment cannot be based on a single factor. Possible indications could be discussions with senior management and its previous experience with internal models.
  - The planned (partial) internal model covers all material risks.
  - If the undertaking plans a partial internal model another possible criterion would be that the undertaking is able to explain the limited scope of the internal model and satisfy the Supervisory Authority that no "cherry-picking " has occurred.
- c.) The undertaking has detailed plans for the general Solvency II implementation as well as the internal model development in place. These plans are based on an assessment of the current development state and cover tasks, deadlines and dedicated resources. The planning encompasses a schedule that shows the timeline for bringing modelling, data collection and risk management to Solvency II standards within the Solvency II time constraint. This schedule also contains:
- The project organisation including reporting lines, final responsibilities, steering groups, main committees, responsible Board members etc. Moreover, it is described how senior management is kept abreast of the model development and approval process.
  - Implementation plan including an analysis of critical paths, inter-dependencies, risk factors and capacity requirements.
  - Details on reporting and evaluating milestones in the implementation plan as well as specific deliverables.

- d.) The existing documentation enables the Supervisory Authority to understand the current state of development and the intended scope of the model. It is helpful if for every element the approach adopted, the platform used and the aggregation method (where appropriate) are summarized. In addition, supervisors will find a summary of the model documentation useful. When the undertaking uses external models supervisors benefit from a list of their names and an explanation of their function. Moreover, based on the documentation the Supervisory Authority is able to decide to what extent other relevant criteria for resource allocation are met. Furthermore, there should be enough documentation for at least one part of the model that is suitable for being reviewed first. Otherwise the Supervisory Authority could not start the pre-application process.
- e.) The degree of involvement of the administrative or management body in respect of the internal model. This could be indicated by, for example, meaningful resources being dedicated to the process, or regular reporting to senior management from the risk management function about the progress of the internal model implementation, or a decision from the senior management of the undertaking to develop the internal model.
- f.) If the undertaking is already using the internal model, possibly tentatively, in decision-making this may be an indicator that the undertaking is reasonably well-advanced in preparations for making an application to the Supervisory Authority. However, undertakings should not regard this criterion as an incentive to use an internal model inappropriately in decision-making if it is not sufficiently developed for the use.
- g.) The undertaking has completed the QIS-4 spreadsheets or performed a similar analysis and takes part in QIS- 5. The intensity of the participation may also be taken into account, for example, by demonstrating an understanding of the implications of the standard formula processes and results in comparison to their own risk and solvency assessment processes (as described above in 3.13a.)) and the internal model. CEIOPS expects that this would assist in the cost benefit analysis described above in 1.19. However, this does not imply that CEIOPS expects that internal model structures will follow the structure of the standard formula or that supervisory authorities will view the results of the standard formula as a minimum level for the results of the internal model. Potential criteria could be:
  - o The number and type of classes, for which the spreadsheets have been completed (including the qualitative questions) as well as the number of entities (group as well as solo level).
  - o An analysis by the undertaking which items presented difficulties in completing the spreadsheet and where approximations were used. In the case of approximations the undertaking has made deliberations about the modifications to be applied in order to meet the requirements when the new regime comes into force.
  - o The analysis in its narrative report should show how the undertaking has assessed the effects that the use of internal

models has on the capital requirements and the elements in the standard formula that do not adequately reflect the undertaking's risk profile

- 3.14. The resources available for model development encompass specialised knowledge about internal models as well as managerial, IT and financial resources.
- 3.15. Based on the previous considerations CEIOPS suggests that the Supervisory Authority may take into account the extent to which the previously mentioned criteria are met.

## **4. Supervisory Authority planning**

### **4.1. Generic planning**

- 4.1. Planning is necessary for the pre-application process to achieve its objectives and for ongoing control of the process. Note that the Supervisory Authority plan is an indication of timescales and resources and will change during the course of the plan. Thus, the plan is not a commitment from the Supervisory Authority to deliver to the plan timescales. However, it should prove to be a useful tool during the pre-application and should aid communication between the Supervisory Authority and undertakings during the process. Feedback to CEIOPS on CP37 and Supervisory Authorities' experience from talking to undertakings indicates that undertakings consider it is important that they know what will happen and when, during the process. By communicating the high level Supervisory Authority plan, there will be more clarity in this area.
- 4.2. An aim of the pre-application process is for the Supervisory Authorities to give a view on how prepared the undertaking is to submit an application. The planning of the pre-application process helps fulfil this aim.
- 4.3. The plan may cover both the pre-application process as whole and the individual processes for each undertaking taking part in the pre-application process. The plan can then function as a benchmark against which the progress of the review of the undertakings' internal model and the development of the undertaking's own internal model work can be measured.
- 4.4. The plan for the pre-application process should be made at an early stage in the pre-application process and involve dialogue between the Supervisory Authority and the undertakings taking part in the pre-application process. Early in the planning process the Supervisory Authority may communicate to the undertakings taking part in the pre-application process preliminary plans for the pre-application process or the approval process as a whole and seek feedback on the plans.
- 4.5. The time horizon of the plan may for example be for a part of the pre-application process, until the end of the pre-application process, or even until a decision has been made about approval.
- 4.6. The Supervisory Authority may encourage undertakings that are planning for the pre-application process to consider relevant information such as rules and guidelines. Supervisory Authorities may also communicate requirements related to any specificities of the Supervisory Authority's pre-application process and any undertaking-specific requirements.

### **Initiation**

- 4.7. A suggestion is to start the pre-application planning with an initiation phase. During this phase the Supervisory Authorities would discuss the pre-application and application process with the undertaking. This initial discussion may be initiated by either the Supervisory Authority or the

undertaking and may for example include face-to-face meetings, telephone conversations or email conversations. This may form part of the normal supervisory relationship, where information on the undertaking's internal model development can be gathered.

- 4.8. In the advice on the approval process for internal models, CEIOPS recommended that the initial discussion during the pre-application process should include discussion of at least the following information:
- a) An indication that the undertaking intends to apply for approval to use its internal model to calculate the SCR and when it plans to apply.
  - b) The scope of the proposed internal model application, including which risks, entities, lines of business and/or major business units are covered by the model.
  - c) An initial view from the undertaking on how the internal model meets the requirements for approval in the Level 1 text (i.e. a self-assessment of internal model readiness). The self-assessment of internal model readiness will not be a substitute for the internal model requirements in the Level 1 text.
  - d) The undertaking shall also be able to explain their concrete, or base-lined, project plan for meeting the internal model requirements by the date of the application.
  - e) Any information the (re)insurance undertaking deems necessary and relevant to understand the model at the provisional stage of pre-application (e.g. a draft of the information to be submitted later for the internal model approval application). An undertaking indicating that they intend to apply for internal model approval should be expected to be on the way to preparing the documentation for the application.
  - f) Access to any draft documentation of the internal model as set out by Article 125 of the Level 1 text. This may give the Supervisory Authority more information about how the internal model works, or is planned to work. The documentation might be of technical aspects of the internal model, or of other aspects such as governance.

### **Information to be gathered from undertakings**

- 4.9. The Supervisory Authority may gather information from the undertakings intending to participate in the pre-application process to facilitate planning. Some of this information may have been gathered when reviewing the criteria for resource allocation. The information to be used for planning may for example cover:
- a) The intended date of submitting the application.
  - b) The intended scope and coverage of the application, including the functions intending to use the internal model.

- c) Details from the undertaking's plan for meeting and demonstrating compliance with internal model requirements, such as an activity plan including times of delivery, dependencies and milestones, a resource plan, assumptions, constraints, risks, project organisation and governance and a plan for reporting progress to the Supervisory Authority.
- d) A self-assessment by the undertaking on how the internal model meets the requirements for approval. This self-assessment may be coordinated by the Supervisory Authority.
- e) Internal model documentation.

### **Contents of the Supervisory Authority's internal plan**

4.10. The Supervisory Authority's plan for internal purposes may for example contain the following:

- a) The objectives of the Supervisory Authority and the undertakings for the pre-application process. The objectives for the undertakings may be based on the information about the undertaking's intention to apply sent during an initiation phase.
- b) The scope and coverage of the pre-application process. This may include a list of which undertakings are participating and the scope and coverage of their internal models.
- c) The Supervisory Authority's organisation and governance of the pre-application process. The Supervisory Authority may for example have a function for coordinating the pre-application work. This will not be communicated to undertakings.
- d) An activity plan including times of delivery, dependencies and milestones. The activity plan is a key part of the pre-application plan and is described in more detail below.
- e) Assumptions, such as assumptions about the availability of resources.
- f) Constraints, such as key dates that can not be changed or resources that are known to be unavailable at certain times.
- g) Risks to the success of the plan, with an analysis of the associated probability and impact, mitigation plans and contingency arrangements.
- h) A resource plan. A large amount of people with specialist knowledge may be required for the internal model review process. The resource plan may account for varying resource requirements at different times, an introduction period when new staff is trained, and the possibility that some staff may have to be replaced after a while.

- i) A plan for communication with undertakings during the pre-application process. A high level plan will be communicated to the undertaking, but the detailed plan will not – see below.

## **Communication of the plan**

- 4.11. CEIOPS do not expect the Supervisory Authority to communicate all details of the plan to the undertakings. The Supervisory Authority may however want to communicate some of the information from the plan and information about significant changes to the plan to the undertakings taking part in process.
- 4.12. The communicated information may for example include activity plans for the respective undertakings with dates when deliveries are expected from undertakings and tentative dates when the supervisors intends to communicate issues or a view on preparedness to undertakings. In addition, the Supervisory Authority may wish to communicate possible dates for on-site visits and other meetings.

## **The activity plan**

- 4.13. An activity plan is a key part of the plan for the pre-application process. Each internal model is different, so the Supervisory Authority may want to make a specific activity plan for each undertaking taking part in the process.
- 4.14. The pre-application process will typically be iterative, with a cycle that may be repeated several times during the pre-application process, so it may be natural to include cycles of reviewing information in the plan.
- 4.15. The Supervisory Authority may however also want to allow flexibility in the activity plan to account for the difficulty in predicting the time it will take to produce and review information.
- 4.16. The activity plan may be based on activity plans from the undertakings taking part in the pre-application process. An undertaking's plan may in turn be based on a gap-analysis, by the undertaking itself.

## **Contents of the activity plan for each application**

- 4.17. The activities in the activity plan may for example be the production of information or reviewing of information. Also, the Supervisory Authority may want to keep track of any undertaking specific activities that are key to being able to deliver information, such as a change of an undertaking's internal model.
- 4.18. The activity plan may for example contain:
  - a) Dates of delivery of parts of the information from each undertaking to the Supervisory Authority, meetings between the Supervisory Authority and the undertaking and the dates of communication by the Supervisory Authority to each undertaking about issues and readiness.
  - b) The estimated duration of each activity.

- c) The dependencies between activities.
- d) Milestones, such as the date of completing the application or delivering larger parts of information.
- e) The critical path, that is, the longest path of planned activities before the application is complete.

### **Planning for reviewing parts of the information**

- 4.19. Depending on each undertaking's readiness, only a part of the information required may be reviewed in the earlier review cycles. This could be the case regardless of whether the undertaking applies for a full or partial model.
- 4.20. The Supervisory Authority may want to plan beforehand what parts of information to review and when it should be reviewed.

### **Changing the plan**

- 4.21. The pre-application plan as a whole and individually for the undertakings taking part in the pre-application process should be reviewed and updated regularly. The undertaking should inform the Supervisory Authority about all changes that may affect the plan. Undertakings must be aware that delays caused by them missing agreed milestones in their plans are likely to lead to changes in the supervisory authority plan for reviewing information and resource allocation. These changes are likely to lead to delays in the review or the process of coming to a view. Sometimes, larger changes to the plan may also be necessary. Examples of situations when the plan may be changed are:
  - a) The undertaking's progress in developing the internal model deviates significantly from the plan or the Supervisory Authority's view on the preparedness of the undertaking changes significantly for some other reason.
  - b) The Supervisory Authority's or the undertaking's capability of implementing the plan changes significantly.
  - c) The undertaking's objectives changes significantly.
  - d) Rules or guidelines are changed.

## **4.2. Group specificities**

- 4.22. The approval process for group internal models, as described in Article 231 of the Level 1 text, shall be led by the group supervisor in co-operation with the other Supervisory Authorities concerned within the college of supervisors. CEIOPS considers that it is therefore logical that the pre-application process is conducted by the same supervisors. Prior to the implementation of Solvency II, CEIOPS considers that the pre-application process should be led by the lead supervisors in co-operation with the other Supervisory Authorities concerned in the Coordination Committees

(Colleges<sup>8</sup>). Therefore, the guidance in this Chapter should apply to both colleges and Colleges. Annex 2 provides further background information on the role of Colleges.

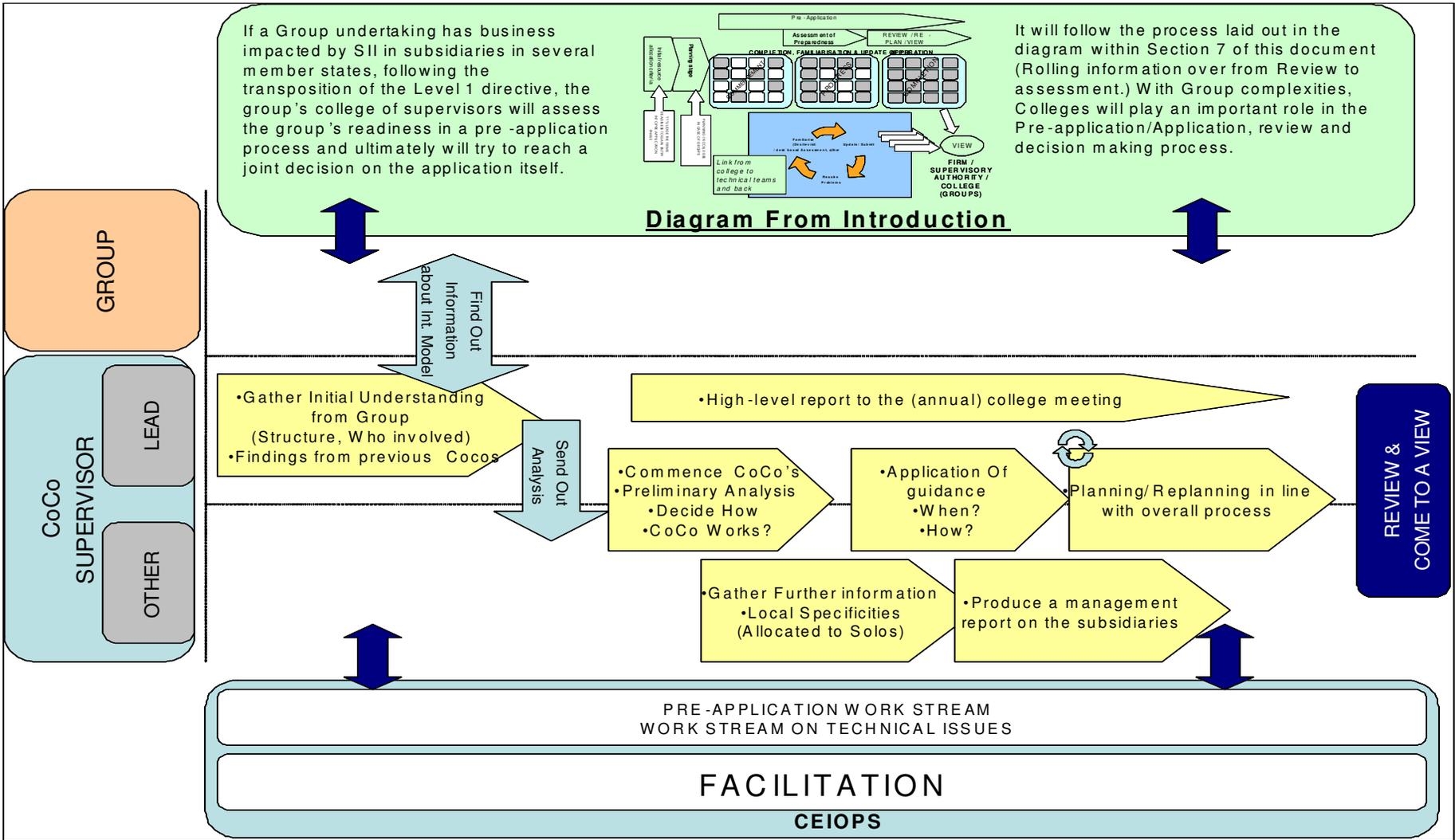
- 4.23. Article 248(5)(a) notes that the college coordination arrangements "shall specify the procedures for the decision-making process among the Supervisory Authorities concerned in accordance with Articles 231, 232 and 247;". The Level 1 text states that the coordination arrangements shall be concluded by the group supervisor and the Supervisory Authorities concerned and in the case of diverging views, any member of the college may refer the matter to CEIOPS. The group supervisor must consider the CEIOPS advice before making a final decision. Therefore, in principle, the group supervisor is the most appropriate participant to determine the design of the pre-application process. However, taking into account different aims of the pre-application process, CEIOPS recommends a flexible framework based on a close cooperation from which colleges will benefit during the approval process.
- 4.24. While CEIOPS expects colleges to define a process for each group, there are common principles and guidelines which all the colleges could use in designing the process.
- 4.25. To avoid confusion for international groups, it is desirable that there is one unique pre-application process when the group is willing to use its internal model both for group and solo purposes, led by the lead/group supervisor in cooperation with the other concerned supervisors. CEIOPS is aware of the importance of such an approach to industry.
- 4.26. This implies that a strong cooperation between European Supervisory Authorities is highly encouraged. In particular, it is recommended that Supervisory Authorities liaise before asking the group to provide specific information in the context of pre-application. This would for example ensure that the group does not waste time providing the same or very similar information for different Supervisory Authorities in the cases when it would make sense to provide this information in a unique document sent to the group supervisor who would be responsible for forwarding it to the other concerned Supervisory Authorities.
- 4.27. From a practical point of view, it is desirable that, at the beginning of the pre-application process, the group supervisor identifies some key facts and issues about the group internal model and its intended use for regulatory purposes. The group supervisor is typically in the best position to access this information.
- 4.28. To facilitate cooperation between supervisors these key issues should be discussed within the college of supervisors as soon as possible to ensure the efficiency of the process. The college would then start to plan a framework to assess the model based on these preliminary findings. The planning and organisation of the college should reflect the overall structure of the group internal model. In their communications, supervisors should follow the precautions for professional secrecy and confidentiality set out

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<sup>8</sup> [http://www.ceiops.eu/media/files/publications/standardsandmore/guidelines/guidelines\\_coordination.pdf](http://www.ceiops.eu/media/files/publications/standardsandmore/guidelines/guidelines_coordination.pdf)

in Section 3.5 of the CEIOPS Level 2 Advice on "Cooperation and colleges of supervisors" to the highest extent possible.

- 4.29. The following Subsections deal with the steps described above, namely the preliminary analysis and the supervisory coordination within the college of supervisors. The flowchart below sets out the process diagrammatically.



## **Role of the group supervisor in the preliminary analysis**

- 4.30. To ensure a proper approval process and to benefit from going through a pre-application phase, it is desirable that the group informs as soon as possible its group supervisor about its intention take part in the pre-application process and to apply for the use of a group internal model.
- 4.31. The group supervisor should then commence with a preliminary analysis of the group internal model. The main goals of this preliminary analysis would be:
- a) to study the overall architecture of the group internal model (e.g. bottom-up or top-down approach, modular or holistic approach, parts of the model common to all subsidiaries...);
  - b) to study the scope of the group internal model and its consistency with Article 214;
  - c) to identify who will be responsible for model implementation within the group and how the tasks are split between the group and the subsidiaries;
  - d) to know if the group intends to use the group internal model for the calculation of the solo SCR for its subsidiaries;
  - e) to identify potential local specificities;
  - f) to assess the timeframe for implementation.
- 4.32. CEIOPS expects the group supervisor to inform as soon as possible the college of supervisors of the main findings and relevant supporting information of the preliminary analysis. Based on this analysis and their existing knowledge of the group, the group supervisor and the other Supervisory Authorities concerned should decide on the most appropriate way to advance the pre-application. For example, it may be inappropriate to launch comprehensive on-site visits if the model is still under development.
- 4.33. However, if the college of supervisors has concerns about specific aspects of the model at this stage, it may ask the group to address them and, if they are still not satisfied, warn the group about possible non-compliance with the standards. The benefit of signalling problems early in the process is that it allows groups more time to address the issues or resolve problems. This may be particularly important where there are a large number of entities within the scope of the group internal model.
- 4.34. Where supervisors become aware that an undertaking belonging to the group is implementing an internal model and the college of supervisors has not been informed, supervisors should discuss with the subsidiary to see which type of model it is building. Supervisors should determine if it is intended to be a solo model. If so, then the local supervisor should inform

the college of supervisors and a pre-application at solo level may be started.

## **Role of the college of supervisors in the pre-application process**

- 4.35. Each college is encouraged at an early stage to discuss the possible pre-application process and how it intends to apply the CEIOPS guidance. It is advisable that supervisors discuss the process with each other before entering into a dialogue with the group. The group will then be able to get a clear view on the process foreseen for the group.
- 4.36. As soon as the college of supervisors decides that it would be appropriate to advance this process, it should develop the framework for the pre-application process. In general, the process should reflect the structure of the model: e.g. for a group internal model where each of the subsidiaries builds a specific module ("local model") before the group aggregates them, it is likely that the most efficient approach would be that each Supervisory Authority assesses the "local internal model". On the other hand, where a model assesses risks on a consolidated basis (e.g. all the real estate exposures are treated simultaneously at group level), then it would make sense to have one global review of the real estate risk at group level. The assessment of the inputs' quality depend then on their origin (if the subsidiaries are responsible for feeding the group real estate database, then the control of the data quality may be more efficient at this level).
- 4.37. Practical examples can be found in Annex 1.
- 4.38. These examples show the importance of knowing the main characteristics of the model before launching the process. Each Supervisory Authority will only be able to assess the model if he knows exactly what the outputs one part of the model should produce are and what their role in the further calculation is, and where the inputs come from. To ensure a proper assessment, colleges should also identify as early as possible potential group specific risks (as referred to in CEIOPS-DOC-52/09) that may arise within the group.
- 4.39. The group supervisor would therefore take the views of all Supervisory Authorities regarding resources, local specificities relevant for the local market issues (as well as the significance for the local markets and for the group of business units) as well as the structure of the group into account when allocating the work between Supervisory Authorities in the most relevant manner. Supervisors should map the different processes within the group internal model and identify the relevant supervisors for each of them. The group supervisor should then check that there is no key process out of the scope of supervision to address the risk that something is missing before the approval process. The college as a whole needs to decide who does what so that local Supervisory Authorities retain responsibility for reviewing local specificities.
- 4.40. As the internal models regime is new to insurance prudential regulation, CEIOPS encourages supervisors to play an active role in the pre-application process to familiarise themselves with internal models and the

assessment process. This is particularly relevant for group internal models where there may be a high degree of variance and complexity in the approaches to modelling.

4.41. In saying that, CEIOPS recognises that the assessment of a group internal model may require significant supervisory resources. The coordination arrangements of the college should reflect the most effective and appropriate way in which each Supervisory Authority can participate in the assessment process. CEIOPS notes also that the arrangements should reflect that the respective roles and tasks of Supervisory Authorities may evolve over time, in particular to account for local specificities.

4.42. This principle is reflected in the IAIS guidance on supervisory colleges in group-wide supervision which notes:

*"To facilitate effectiveness and efficiency, careful consideration should be given as to how to approach the participation of members at meetings and in other activities of the supervisory college. There is a need to balance the desire for an inclusive membership approach with the need to maintain manageable operational structures and to avoid the supervisory college becoming unwieldy and unworkable."*<sup>9</sup>

4.43. CEIOPS recognised this in its advice on the internal model approval process:

*"The basis of participation should be agreed among involved Supervisory Authorities having due regard for the particular circumstances of the group."*

Also CEIOPS Advice for EC deals with the issue: the "framework [established jointly in the college] needs to encompass [...] the respective roles, as well as the allocation of specific tasks. As set out in paragraph 3.78 of CEIOPS Advice on Cooperation and Colleges of supervisors, any Supervisory Authority which is able to participate in any supervisory team would be permitted to do so."<sup>10</sup>

4.44. It is important to keep in mind that even where some parts of the group model are reviewed locally, the concerned supervisors would often have to review the consistency of these different parts. For example, if catastrophes are modelled in each of the subsidiaries, there should be consistency between them in the case of cross-border events.

## **Example of local specificities**

4.45. A representative example will be the assessment of local specificities for which the college could choose the following approach to allocate tasks between the group supervisor and the other Supervisory Authorities concerned: the group supervisor taking into account the more in depth

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<sup>9</sup>[http://www.iaisweb.org/temp/Guidance\\_paper\\_No\\_3\\_8\\_on\\_the\\_use\\_of\\_supervisory\\_colleges\\_in\\_group-wide\\_supervision.pdf](http://www.iaisweb.org/temp/Guidance_paper_No_3_8_on_the_use_of_supervisory_colleges_in_group-wide_supervision.pdf)

<sup>10</sup> <http://www.ceiops.eu/media/files/consultations/consultationpapers/CP37/CEIOPS-L2-Final-Advice-Procedure-approval-internal-model.pdf>

knowledge of the group internal model could try to identify potential local specificities and contact the concerned supervisors. Notwithstanding with this contact, each solo supervisor could be responsible for a priori identify potential local specificities and conduct an initial high level assessment and inform the Group supervisor and college of the due diligence conducted.

- 4.46. After the identification of local specificities the college should decide the best way forward. While in many cases local specificities may be indeed unique and therefore the primal role on their assessment should be performed by the concerned local authority, on other cases some countries may have share local specificities (for windstorm central Europe or earthquake southern Europe), if that is the case a certain degree of consistency should be tried to be achieved in the assessment of local specificities that share common features. For instance a specific sub-group within the college may analyze the latter.
- 4.47. Local specificities are more likely to emerge in insurance underwriting risk (both life and non life). The early identification and assessment of local specificities will be very important to ensure these are duly taken into consideration, mitigating the need of imposing capital add-ons at solo level due to significant deviations of the risk profile of solo undertaking from the assumptions of underlying the group internal model, and also to avoid the exceptional circumstance under which the solo undertaking may be required to calculate the SCR using the standard formula.
- 4.48. Local specificities may result from risk at local level that are not part of a group internal model (e.g. specific risks in workers compensation) or whose nature, scale and complexity may differ at solo or group level, e.g., that are immaterial at group level but not at solo level (e.g. exposure to CAT risks such as flood, or earthquake risk), inter alia.
- 4.49. The role of solo supervisors will be also important in assessing the parameterization of the model at local level, at other than local specificities. For example the volatility of mass line of business may differ considerably amongst countries (e.g. third party liability in motor insurance).

## **Practical organization**

- 4.50. As mentioned in the Section "Coming to a view", (Section 6), the Supervisory Authorities should aim to ensure a level-playing field during the pre-application process. Therefore, CEIOPS recommends that they organize themselves in a way that facilitates the most effective way of exchanging information between supervisors.
- 4.51. One possible way to have a consistent approach of similar risks is to include model specialists in the pre-application process, which are not supervising the firm on a day-to-day basis. This also applies for the review of solo internal models.
- 4.52. Supervisory Authorities are encouraged to be represented by the most adequate people in the different pre-applications and these people may be different when different aspects of the internal model are reviewed. In

addition, CEIOPS recommends that individual supervisors participate actively in the process of reviewing information to maximise the benefits of each part when coming to a view. CEIOPS also considers that this will maximise the benefits to individual supervisors and supervisory authorities.

- 4.53. The allocation of tasks should be updated as frequently as necessary to ensure a proper pre-application process, which can be challenged by members of the college where they have concerns with the assessment.
- 4.54. Another key issue to be tackled during the pre-application phase is cherry-picking. When the group decides to exclude some entities from the scope of the internal model for the purposes of the group SCR calculation, the college of supervisors should discuss whether the group is ready to submit the application with appropriate justifications. The quantification of the risks taken by excluded undertakings and the appropriateness of the results of the standard formula applied to them could be assessed by the Supervisory Authorities concerned to identify any regulatory arbitrage that could arise during the approval process. (see also the final advice on the approval process<sup>11</sup> and CP65<sup>12</sup>).

### **Role of CEIOPS in the pre-application process**

- 4.55. CEIOPS is aware that some pre-application processes will take place before the new architecture for financial supervision will come in force. However, CEIOPS wants to express some principles which will be reviewed in the light of this reform.
- 4.56. It would be beneficial for CEIOPS to act as a facilitator during the pre-application process. For example, CEIOPS could build a list of groups having engaged the pre-application in coordination with the group supervisors, and check that there is no group willing to use an internal model for which the college of supervisors has not launched a pre-application process. CEIOPS may also play a role in cooperation and communication between supervisors especially in the case of diverging views arising during the pre application process as well as in facilitating the exchange of information and experience regarding pre-application processes in the EEA.

### **Language of the documentation used during the pre-application**

- 4.57. As mentioned in the final advice on the approval process<sup>13</sup>, during the pre-application, the different supervisors involved should come to a view regarding the preparedness of the group to submit an application, including the scope of the application and the timescale for the formal application.

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<sup>11</sup> <http://www.ceiops.eu/media/files/consultations/consultationpapers/CP37/CEIOPS-L2-Final-Advice-Procedure-approval-internal-model.pdf>

<sup>12</sup> <http://www.ceiops.eu/media/files/consultations/consultationpapers/CP65/CEIOPS-CP-65-09-Draft-L2-Advice-Partial-Internal-Models.pdf>

<sup>13</sup> <http://www.ceiops.eu/media/files/consultations/consultationpapers/CP37/CEIOPS-L2-Final-Advice-Procedure-approval-internal-model.pdf>

- 4.58. To ensure this preparedness, and to smoothen the approval process, it is desirable that the relevant supervisors and the group find during the pre-application an agreement on the language of both the documentation within the group and of the official application pack, as referred in CEIOPS-DOC-28/09. For example, this could take into account the language chosen by the group for internal communication and the language in which the various supervisors can most easily communicate among each other
- 4.59. There is a practical advantage of having this discussion as early as possible, because groups could therefore begin earlier the translation of given parts for regulatory purposes when the relevant documents are not available in the agreed language.

### **Related third country undertakings**

- 4.60. It is likely that many groups that wish to use a group internal model may have related undertakings with their head offices outside of the European Economic Area. The default method is to calculate group solvency on the basis of the consolidated accounts using the accounting consolidation method. The presumption should be that the group internal model is built to cover all related undertakings that fall within the scope of the group. It is important to note that the application of the accounting consolidation method is not linked to the equivalence of the third country regime.
- 4.61. There are several practical issues that should be considered where third country undertakings are included within the scope of the group internal model. For example, assessing the quality and availability of the data may be critically important, but there may be legal impediments for EEA supervisors to check the implementation of the model with respect to the non-EEA undertakings. EEA and non EEA supervisors have a different legal status and hence their participation will differ. While non-EEA supervisors may participate in the approval process, non EEA supervisors will neither be part of nor bound to the joint decision process referred to in Article 231. Therefore, in principle, non-EEA supervisors may also participate in the establishment of the pre-application plan. Their contribution to the process should be agreed with the group supervisor, following consultation with the other supervisors in the College.
- 4.62. Nonetheless, the group must demonstrate at all times that the inclusion of third country undertakings in the group solvency calculation is compliant with Solvency II. Stronger validation by independent reviewers could be a useful tool for the group supervisor to assess the quality of the model, but in many cases this might not be sufficient to satisfy the group supervisor and the other concerned Supervisory Authorities.
- 4.63. In either case, there may be a lack of expertise within the college of supervisors on the peculiarities of non-EEA markets, which highlights the important role third country supervisors may play in the college (see CEIOPS-DOC-54/09). Nevertheless, issues about confidentiality and

professional secrecy should be addressed (see CP 78 on equivalence assessment)<sup>14</sup>.

- 4.64. Therefore, as a general principle, where the college of supervisors foresees difficulties in assessing the group internal model as it applies to non-EEA undertakings, it should inform the group and try to find practical ways to ensure that those undertakings are adequately included in the assessment. If no practical solution can be found, the group supervisor could ask the group to exclude them from the scope of the model.

### **Third country groups and EEA subgroups**

- 4.65. There position is a different approach where third country groups want to use an internal model for the EEA undertakings whose parent is based outside the EEA. The Level 1 text provides for an equivalence assessment of the third country group rules to ensure a broadly equivalent group supervision regime is being applied.<sup>15</sup>

- 4.66. If the jurisdiction of the parent outside the EEA has been found equivalent, EEA Supervisory Authorities will not exercise group supervision, but will instead rely on the third country regulator to undertake group supervision and will only apply Solvency II on a solo basis. This means that the internal model of the EEA undertakings is assessed on a solo basis. If the jurisdiction is not equivalent, Supervisory Authorities will need to consider how best to supervise the worldwide group, but this should not prejudice any solo internal model application.

- 4.67. Where group supervision is exercised at the level of an EEA subgroup, the college of supervisors will need to decide how to calculate the group SCR for the EEA subgroup. In these circumstances, the same considerations as for a group with its ultimate parent undertaking in the EEA will apply. This includes the approval of any group internal model for the EEA subgroup.

### **Cross-sectoral groups**

- 4.68. Groups may have cross-sectoral activities, which are included within the group solvency assessment. However, as stated in Article 228 and mentioned in CEIOPS' Advice on the tests-and-standards for internal model approval, groups may apply methods 1 or 2 set out in Annex 1 of the Financial Conglomerates Directive for the calculation of group solvency. This means there are different calculations based on the relevant sectoral rules.

- 4.69. Therefore the regulatory capital requirements for undertakings which are not (re)insurance undertakings cannot be calculated with the group internal model, but they need to be considered within the overall group solvency assessment.

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<sup>14</sup> Title 1, Chapter 4, Section 5 of the Directive

<sup>15</sup> CP 78 notes that an internal model regime is not a necessary prerequisite for equivalence

## 5. Review of information.

### Introduction

- 5.1. The purpose of this stage of the pre-application process is to review the information that has been collected, in order to form a view on how prepared the undertaking is to submit an application. In order to be in a good position to form a view on the preparedness of the undertaking, the Supervisory Authority will need to have a thorough understanding of how the technical characteristics of the model function, as well as all the other processes around the model, including for example, how it is used in the business and how it is documented. In order to allow the Supervisory Authorities to form an appropriate view on the preparedness of the undertaking, it is necessary that an in depth review takes place. In CEIOPS' view, if an internal model is clearly inappropriate, it may be that the level of the review may need to be less in-depth, to confirm that view. There are likely to be similarities between the review done in the pre-application and the assessment of the application, and CEIOPS considers how information and analysis can be used efficiently in Section 7.
- 5.2. To provide further guidance on how in depth the review should be, examples of the review of elements of a model are provided below. Two examples have been provided: one example focussing on a quantitative review and the other on a qualitative review.
- 5.3. CEIOPS would like to highlight that the extent of the review may vary from element to element. Specifically, the supervisory authority is likely to take into account the principle of proportionality by considering the nature, scale and complexity of the element when deciding on the extent to which the element would need to be reviewed. In addition, the supervisory authority may also want to consider the relation between the element being reviewed and other parts of the internal model when considering the extent of the review.
- 5.4. For groups, there will need to be clear communication between the various supervisory authorities to ensure that the extent of the review required to be completed and the role of each supervisory authority in the college is clearly understood by all supervisory authorities. The extent of the review will be determined as part of the planning process for groups as set out in Section 4 above, and may need to be adjusted as the pre-application develops.
- 5.5. Note that the examples below do not provide an exhaustive list of what could be included in the review, and the supervisory authority may want to include further steps in the review.

### Quantitative element

- 5.6. As an example, consider the review of the interest rate risk element of an internal model. The review may include the following stages:
  - The supervisory authority may first want to review the nature of the interest rate risk to which the undertaking is exposed, and what the

risk strategy of the undertaking is to manage these risks. For example, is the insurer exposed to an increase, or decrease in interest rates, a change to the shape of the interest rate curve, or any other specific movements to the interest rate curve?

- The supervisory authority may then want to review the structure of the part of the model that is modelling the interest rate risk. For example, is the interest rate risk modelled on its own or is it modelled jointly with other market risks? How are the results of this part of the model aggregated with other parts of the model?
- The supervisory authority may also want to review the parameters, methods and data used to model the interest rate risk.
- In addition to the actual parameters, methods and data, the supervisory authority may also want to review the processes that the undertaking has gone through to determine the parameters and methods to use, as well as the processes used to store and manage the data. The Supervisory Authority may also be interested in understanding how the firm has validated the resulting model output and the relative importance of the interest rate risk as a driver of capital.
- In some cases, especially where the supervisory authority has concerns, or for very significant parts of the model, the supervisory authority may want to review some of the IT source code that has been used within the model.

## **Qualitative element**

5.7. As an example, consider the review of the risk management process of the internal model:

- The supervisory authority may want to review the overall risk management process of the internal model and to consider this in the context of the model. The supervisory authority may also want to review how the risk management processes of the internal model ties in with the quantitative part of the internal model.
- The supervisory authority may also want to review the individual parts of the risk management process supported by the internal model.
- For some areas, the supervisory authority may want to review the risk management processes linked to the internal model in detail, for example by meeting with the individuals that perform certain tasks and / or by closely examining policies and evidence that these policies have been followed.

5.8. CEIOPS would like to highlight that the above are only examples and that the depth of the pre-application review will be considered on a case-by-case basis. For a given pre-application, different parts of the model may also be subject to different levels of review.

- 5.9. This Section addresses what supervisors should understand in the course of conducting the review of information. The details set out here are not additional requirements on undertakings but are purely for Supervisory Authorities use and will be tailored to each undertaking accordingly.
- 5.10. The pre-application process is an informal process that is based on the trust between Supervisory Authority and undertaking. This means that there is reliance on good quality, consistent and accurate information passing from the undertaking to the Supervisory Authority and vice versa.
- 5.11. This Chapter first sets out the information which should be reviewed, and then considers the process by which it could be reviewed.

### **Information to be reviewed**

- 5.12. The scope of the review would be for the Supervisory Authorities to give a view on how prepared the undertaking is to submit an application. For this reason, the Supervisory Authority would want to review the information which the undertaking is intending to submit within their application. This Section considers information that Supervisory Authorities may want to review under the various headings introduced by the advice on the application from CEIOPS to the European Commission<sup>16</sup>.

### **Results of the latest ORSA and details of the undertaking's business and risk strategies**

- 5.13. The Supervisory Authority may want to review the ORSA of the undertaking, as set out in Article 45 of the Level 1 Text. Specifically, the Supervisory Authority may want to review:

- The risk profile and the solvency assessment of the undertaking
- An analysis of how the risk profile deviates from the assumptions underlying those used by the internal model
- The risk tolerance limits and the business strategy of the undertaking
- The compliance, on a continuous basis, with the technical provisions and the capital requirements.

- 5.14. For pre-applications taking place before the entry into force of the Solvency II rules, and the deadline for submitting the first ORSA has passed,, the Supervisory Authority may want to review an analysis by the undertaking which sets out the risk profile of the undertaking and how these risks have been assessed.

### **Scope of application for full and partial internal models and model coverage**

- 5.15. The Supervisory Authority may want to consider the scope of the application and the time schedule for the submission of the formal

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<sup>16</sup> <http://www.ceiops.eu/media/files/consultations/consultationpapers/CP37/CEIOPS-L2-Final-Advice-Procedure-approval-internal-model.pdf>

application. When describing the scope of the internal model, undertakings need to consider carefully where to draw the line between the internal model and processes that are linked to the internal model but are outside it. They will need to be able to explain why some processes are not part of the internal model yet all the required standards are met.

- 5.16. An example of this is the process for entry of claims data. The data entry process itself does not need to be in the internal model. The requirement that data be complete could be met with a data policy that specifies the requirements that this process has to meet. Undertakings can then change the process to collect data as necessary as long as they record how they meet this data policy. However, the data policy itself is part of the internal model. Once data is in the claims system, any database that uses the claims data to feed into the calculation kernel is also part of the scope of the internal model.
- 5.17. However, CEIOPS considers that policies are not a panacea to delimit the internal model, and are no substitute for the review process described below.
- 5.18. As described above in the qualitative example (5.7), supervisory authorities are reviewing an internal model in the context of a risk management system. Therefore it is important to review the risk management system. However CEIOPS considers that this does not mean that the complete risk management system is part of the internal model. Undertakings may define parts of the risk management system to be within the internal model. In practice there are likely to be parts of the risk management function (e.g., setting of risk policies and reporting procedures) that are so closely related to the internal model that undertakings are likely to wish to include them in the internal model change policy<sup>17</sup>. Other elements of the risk management system that are not included in the model change policy may be monitored over time when the ongoing compliance with the requirements of the Directive and Level 2 implementing measures is reviewed [as per Article 36.2(f)].
- 5.19. To this end, the Supervisory Authorities would want to be aware of all the risks covered by the internal model and therefore may want to receive the identification and explanation of all the risks that are captured. These should at least include (for a full internal model) all risks in Article 101 (4) (i.e., underwriting risk, market risk, credit risk and operational risk), as well as any other material quantifiable risk not covered in Article 101 (4).
- 5.20. To help the supervisor's understanding of the scope of the full internal model, the Supervisory Authority may be interested in a justification by the undertaking for the use of an internal model over a partial model or standard formula.
- 5.21. In relation to a partial internal model, the Supervisory Authority may also want to consider any material from the undertaking that would demonstrate:

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<sup>17</sup> CEIOPS may produce Level 3 guidance on the internal model change policy

- a) Detailed justification for the limited scope of the model and, if necessary, the transitional plan to extend the scope of the internal model, as well as the reasons for including the risks modelled and the reason for not modelling the risks outside the scope of the internal model.
- b) Why the undertaking considers that the SCR produced using a partial internal model is more consistent with the risk profile of the business than applying the standard formula and why they feel the standard formula is appropriate for the risks not modelled.
- c) How the undertaking proposes to integrate the partial internal model into the standard formula, and its justification, and why the firm considers the design of the partial internal model to be appropriate. This should include the requirements from CEIOPS advice on partial internal models<sup>18</sup>.

## **Risk management process and risk profile**

5.22. As per Article 44(1) and Article 112 (5), the Supervisory Authority should be satisfied that undertaking has effective **risk management** system in place comprising strategies, processes and reporting procedures necessary to identify, measure, monitor, manage and report risks on an ongoing basis. The following information from the undertaking may assist the Supervisory Authority with regard to the Risk Management Function:

- a) a clearly defined risk management strategy that includes the risk management objectives, key principles, risk appetite and assignment of risk management responsibilities across all the activities of the undertaking;
- b) adequate policies that include a definition and categorisation of risks faced by the undertaking. This may explain how the undertaking identifies, measures, monitors, manages at individual and aggregate levels and their interdependencies;
- c) evidence of analysis of the performance of the internal model which is reported to the Board;
- d) details of the risk profile of the undertaking – the amount of risk modelled in the various categories relevant to the undertaking, including risk tolerance limits and the strategy for the undertaking;
- e) how the undertaking plans to review its risk profile in order to ensure that if it changes in a relevant way, the SCR may be recalculated and re-submitted.

## **Self assessment**

5.23. The **self-assessment** may help the Supervisory Authority to identify strengths and weaknesses of the internal model and to demonstrate

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<sup>18</sup> See CEIOPS (2009) - Consultation Paper 65

progress to meeting the regulatory requirements, including provisions set out in Articles 100 and 112(3) and 113 for partial internal models.

- 5.24. Furthermore, the Supervisory Authority may be interested in an assessment by the undertaking of how well the criteria for model approval are met (Articles 120 to 125). This is to highlight the strengths and weaknesses of the internal model so that it can be compared to the Supervisory Authority's own view of the undertaking's internal model. All material quantifiable risks should be taken into in the calculation of SCR, this concerns both full and partial internal models. In the specific cases of partial internal models, the model's coverage in conjunction with the risks and business units covered by the standard formula would want to assure that material quantifiable risks are duly taken into account.
- 5.25. The following list - not exhaustive - reports some of the most useful information that the undertaking may make available for review documentary evidence that its internal model has made progress to meeting the requirements set out in Articles 120 to 125<sup>1920</sup>:
- a) senior management understanding of the internal model, including its structure, logic, dynamics, limitations, diversification and scope as stated in Article.120;
  - b) how the internal model is used in decision-making processes, including the setting of a business or risk strategy and to improve the undertaking's risk management system;
  - c) techniques used in the calculation of parameters and model distributions, including details of how many points of the probability distribution forecast a firm uses, how risks are aggregated, any risk ranking performed, methodology used, the logical connection between inputs (data and assumptions) and outputs (probability distribution forecast, e.g. profits and losses), as defined in Article 121;
  - d) for undertakings who use a different time period or risk measure to that set out in Article 101 (3), an explanation of how the SCR has been derived to provide an equivalent level of protection, as defined in Article 122;
  - e) information showing how profit and loss attribution is a tool for validating the internal model, for managing the business and improving the internal model as defined in Article 123;
  - f) validation policy that sets out the way in which the internal model is validated and explains how it is appropriate as defined in Article 124;
  - g) documentation outlining the theory, assumptions and mathematical and empirical basis underlying the internal model as defined in Article 125;

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<sup>19</sup> Link to Level 3 guidance on demonstrating the use test – to be drafted by CEIOPS in future

<sup>20</sup> <http://www.ceiops.eu/media/files/consultations/consultationpapers/CP37/CEIOPS-L2-Final-Advice-Procedure-approval-internal-model.pdf>

- h) how the use of external model and data still satisfies Articles 120 to 125;

## **Technical characteristics**

- 5.26. To help the supervisor's understanding of the **calculation kernel** of the internal model, the Supervisory Authorities may want to receive details from the undertaking about the way the model is structured, what risks it covers and how each risk is modelled. Supervisory Authorities should also be satisfied about key assumptions selected by the undertaking. Supervisory authorities may also be interested in outputs and inputs from various parts of the model to perform benchmarking, as well as to confirm evidence that the model produces stable results.
- 5.27. In relation to calculation kernel, the Supervisory Authority may want to require the following information from the undertaking:
  - a) description of the key components / calculation steps within the model, including links between components (e.g. including a flow chart);
  - b) explanation of the overall methodology used to calculate Basic Own Funds and the Solvency Capital Requirement and for a partial internal model, how the results from the partial internal model are proposed to be integrated with those from the standard formula;
  - c) types of risk, major business units and other elements of the undertaking's business that are included in the model, including the relative materiality of the risks and major business units;
  - d) the measures used in the internal model and the method used to model and quantify the various categories of risk;
  - e) details of management and policyholder actions assumed to occur and evidence of their reasonableness;
  - f) aggregation of results and diversification effects;
  - g) details of use and modelling of risk mitigation techniques and their impact on the SCR, SCR (including the assessment of secondary risks).

## **External models and data**

- 5.28. As set out in Article 126, the use of a model or data obtained from a third party shall be not considered to be a justification for exemption from any of the requirements for the internal model set out in Articles 120 to 125. The Supervisory Authority may want to require information from the undertaking disclosing the use of external models and data and demonstrating the suitability for use within the internal model.
- 5.29. The Supervisory Authority may want to pay particular attention to the method used by the undertaking to verify that the external models uses are appropriate for its particular needs and appropriately incorporated into its internal model. The supervisors may also want to gain an awareness of the description of how the external model/data is used in the

undertaking's SCR calculation process, the justification for use of external model/data and how the integrity of the external data has been verified. Also, an assessment of the undertaking's contingency planning to allow for the increased dependence on third-parties.

## **Model governance systems and controls**

5.30. To help the supervisor's understanding of the effective **system of governance**, the Supervisory Authority may require information from an undertaking to demonstrate that it has an effective system of governance which is applied throughout the undertaking, providing for a sound and prudent management of the business.

5.31. The Supervisory Authority may want to pay particular attention to:

- a) The evidence of effective cooperation, internal reporting and communication of information at all relevant levels;
- b) The evidence that the members of the administrative or management body possess sufficient professional qualifications, knowledge and experience in the relevant areas of the business;
- c) The evidence that the high-level governance for the internal model includes appropriate and documented controls.

5.32. Furthermore, considering that today's senior management may need to be aware of complex issues related to insurance business, actuarial science, accounting, law, computer models and management compensation, the quality of individuals and their behaviour, as well as effective overall group dynamics of the board, may be as important to good governance as having appropriate structures and practices in place. The supervisory authorities may want to pay particular attention to:

- a) the evidence that the administrative, management or supervisory body has assumed overall responsibility for Model Approval, Model Oversight and Model Strategy aligning Risk and Business strategy;
- b) the evidence that the administrative, management or supervisory body has appropriate understanding of the Model, its results, demonstrating how it has confidence in model outputs and how it uses the results;
- c) the evidence of administrative, management or supervisory body sign off of roles & responsibilities of internal model governance as well as the evidence that the Board has signed off on the strategic direction of the model.

The above are examples of the sort of information supervisory authorities may want to see under model governance, systems and controls. The list is not exhaustive

## **Up-to-date independent review/validation report**

5.33. The Supervisory Authority should be satisfied that, as part of the validation policy, the undertaking has an **independent review of the**

**internal model** (note that this review can be internal or external). In particular, the Supervisory Authorities may want to see details of this, including what was reviewed, what recommendations were made and how they were acted on. Particular attention may want to be paid on:

- a) explaining how frequently the reviews take place and trigger levels to determine when events are significant enough to lead to further ad hoc checks on the validity of the internal model;
- b) explaining how the review has been done independently from the people involved in producing the internal model and how senior management are involved in the process;
- c) clear responsibilities for the validations tasks, how the results are reported and a clear escalation path. Specifically the Supervisory Authority may want to see a defined pre-set criteria which will determine whether results are required to be escalate;
- d) evidence of testing results against experience as well as evidence of testing the robustness of the internal model.

### **Policy for changing the full and partial internal model**

5.34. To help the supervisory authority's understanding of the **policy** for changing the full or partial internal model, the Supervisory Authority may want to see a specification of minor and major changes to the internal model by the undertaking. Supervisory authorities may also want to consider information relating to:

- a) what a 'Minor' change required to a model is, having considered it internally with the various parties involved in Model development and specification.
- b) whether any category that falls outside a 'Minor' change is consequentially a 'Major' change;
- c) evidence of an effective validation and data policy

### **Plan for future model improvement**

5.35. The undertaking shall set out and explain any plans it has for the **future development and improvement of the model**. During the pre-application stage, this may include plans to address any identified weaknesses of the internal model as well as plans to extend or develop the model.

5.36. In line with the Use test Foundation principle, the supervisors could expect that models may be continually improved/refined even if the model has been approved by the regulator. The Supervisory Authorities may want consider:

- a) details of where the firm has identified areas of improvement and details of their plan to make the improvements;

- b) clear indication in the model submission, those areas where it has recognised that the work is not complete and where further work/changes need to be made;
- c) the timescales within which these changes can be made and the date by which these can be made available for submission;
- d) a copy of the latest Gap Analysis that the undertaking has carried out showing how they compare against all the requirements in Solvency II.

It is clear that all the items listed above derive from an iterative process of information review, and thus would be subject to continuous changes and improvements.

## **Capital requirement**

- 5.37. When reviewing the capital requirement, CEIOPS considers that in some cases it may be useful to receive a split of the capital requirement by risk category, which may help to understand the key risks and may also be useful for benchmarking purposes.
- 5.38. In some cases, the Supervisory Authority may also want to consider whether it may be useful to obtain an estimate of what the standard formula capital requirement would be. The Supervisory Authority may require this only for certain risk modules and/or sub-modules, or for the whole SCR. The Supervisory Authority may also consider whether it would be useful to have this information for only certain business units, depending on the scope of the model. This may give the undertaking information on the model's performance. From this, the Supervisory Authority may gain additional information on the undertaking's state of development in respect of the internal model, which may be compared to that of other, similar undertakings during the pre-application. Note that the standard formula will not be used as a benchmark for the internal model results. Also, supervisory authorities may review the own risk and solvency assessment of the undertaking in respect of the assessment of the appropriateness of the SCR calculated by the internal model for the risk profile.

## **Application letter**

- 5.39. In addition to the above, the supervisory authority may also wish to review the other information required to make the application complete, as per the advice given by CEIOPS to the Commission on the procedure to be followed for the approval of an internal model:
  - Cover letter requesting approval, approved and signed by the administrative, management or supervisory body of the undertaking;
  - Written declaration from the administrative, management or supervisory body of the undertaking confirming that all clarifications and supporting document have been provided, but no material fact and/or details relevant to the approval have been concealed;

- Copy of the application approval from the administrative, management or supervisory body of the undertaking, as set out in Article 116.

5.40. The supervisory authority may want to review this information towards the end of the pre-application process.

### **Process to review the information**

5.41. As has been highlighted in the planning process, each internal model will be structured differently, and therefore will have a plan that enables an appropriate pre-application process. In a similar way, the process for the review of information will need to be flexible enough so that it could be appropriately applied to each internal model.

5.42. However, when considering the information to be reviewed and the process to be followed, the Supervisory Authority should bear in mind the plan which has already been set up, for example;

- a) Any further model improvements that are planned to be made by the undertaking. This information may be available from the material produced by the undertaking to show compliance with the resource allocation criteria.
- b) The timing of various meetings that have been set up within the plan, and therefore the points at which certain views on information may be required.

5.43. Thus the frequency of the information received from the undertaking will vary from firm to firm, and will also depend on the pre-application plan which has been set up for each undertaking.

5.44. When the undertaking enters the pre-application process, especially prior to the transposition of the Level 1 and Level 2 measures, the undertaking may not have all parts of the model completed, and may still be in the process of developing the model.

5.45. When the undertaking has only some parts of the information available to be reviewed, the Supervisory Authority may be able to start reviewing this information. As more information becomes available, this information can then also go through the review process. When new information goes through the review process, the Supervisory Authority may want to pay particular attention to the interaction between the new information and any information already reviewed.

5.46. The schedule for reviewing the various parts of the information will have been set out in the planning process, although the schedule may need to be flexible to allow for the possibility that certain pieces of information may take longer or shorter to produce by the undertaking or review by the Supervisory Authority than set out in the plan.

5.47. The actual review of the information is an iterative process that may include the following steps:

- a) Consideration: The Supervisory Authority considers the information received. The information must be considered by the staff with the appropriate skills and qualifications required to form an appropriate understanding of the information presented.
  - b) Identification of issues: The issues which cause concern to the Supervisory Authority are identified.
  - c) Communication to undertaking: The Supervisory Authority communicates the issues identified by the Supervisory Authority.
  - d) Response by the undertaking: The undertaking then responds to the Supervisory Authority to address the concerns raised, possibly by:
    - explaining the rationale for the information originally provided by the undertaking
    - adjusting the model
    - a combination of the above
- 5.48. Once the new information is received, the process is followed again until all concerns are addressed.
- 5.49. New information may also be required by the Supervisory Authority if undertakings make changes to parts of the model that have already been reviewed.
- 5.50. In addition to taking a bottom-up view where all parts of the model, and interactions between the parts, are reviewed separately, the Supervisory Authority may also want to consider a top-down approach. In this case, the Supervisory Authority would review information at the highest level of the model to get an overall view on certain characteristics of the model.

## **On site visits**

- 5.51. CEIOPS is of the opinion that the pre-application process should include at least one face-to-face meeting between the undertaking and the Supervisory Authority, preferably in the start-up period of the pre-application phase. An initial face-to-face meeting will be beneficial for both parties as it is an opportunity to clarify expectations and will form the basis of the close cooperation that is a necessary success-criterion for a fruitful dialog. As highlighted in the Section on planning, CEIOPS does not expect that on site visits will be undertaken without agreement beforehand with the undertaking.
- 5.52. Findings during the pre-application review process may also cause the need for additional on site visits. These should be welcomed by the undertaking as a means to facilitate and smooth the pre-application process. The purpose of these visits may possibly be to support or supplement the received information or to go more into the depth with a specific part of the application.

- 5.53. In relation to group internal models the meetings and visits should be organized and divided between the related undertakings on a case-by-case basis to obtain the most appropriate solution for the particular group. This task should be performed in collaboration between the lead/group Supervisory Authority and the college of supervisors.

### **Desk-based review**

- 5.54. In addition to the on site visit, the Supervisory Authority may perform a number of desk based reviews on the information received from the undertaking. This information may have been received either through the information obtained in the criteria for resource allocation, information submitted by the undertaking in the pre-application information to be reviewed, information obtained on any on-site visit, or any further information obtained from the undertaking.
- 5.55. The review of this information may provide the Supervisory Authority with a better understanding of aspects of the internal model. This review may also highlight certain areas where the Supervisory Authority may need further explanation of the information obtained, or additional information

### **Requests for further information**

- 5.56. The Supervisory Authority may request further information from the undertaking to further understand the internal model assisting the Supervisory Authority to come to a view on the preparedness of the undertaking to submit an application. An example of this is if the firm has undergone a desk based review which has resulted in the need for further information.
- 5.57. This further information may then be subject to a desk based review by the Supervisory Authority.

### **Ad hoc conversations**

- 5.58. In some cases the Supervisory Authority may find it more effective to collect information by having conversations with the undertaking. These conversations may be face to face or over the telephone, or by email.
- 5.59. The Supervisory Authority may also want to take into account any other information that the Supervisory Authority has collected, through conversations that are not part of the pre-application process.
- 5.60. The Supervisory Authority may want to consider how to document information that has been gathered through conversations.

### **Test of the scope and the change policy**

- 5.61. During the pre-application process, there is an opportunity for the undertaking to test the scope of the model and the change policy. As the pre-application process is taking place, the model itself is likely to develop for example due to the undertaking collecting more information resulting in a better understanding of its risk exposure, or as the risk exposure changes due to changes in the business of the undertaking.

5.62. This natural development of the model gives an opportunity to the undertaking to review whether the scope of the internal model and the change policy is appropriate. Examples of this are:

- a) If the undertaking finds that they need to make too many major changes to the model, this may indicate that:
  - The scope of the change policy may not be appropriate, and the undertaking may wish to change this, or
  - The original scope of the internal model may have been inappropriately set, resulting in too many major changes to the model
- b) The undertaking may find that some changes it wishes to make to the model are not included in the scope of the model or model change policy, and thus that the change will require a model extension. In this case the undertaking may wish to extend the scope of their model change policy such that the intended change is either captured by the scope of the model or by the model change policy.

## **6. Process for coming to a view**

### **6.1. Introduction**

- 6.1. During the review of information the Supervisory Authority should have ample opportunities to form an opinion on how prepared the undertaking is to submit a complete application for the internal model, including the scope of the internal model and the time schedule for submission, i.e., how complete the application is and whether the undertaking has resources to engage with the assessment.
- 6.2. During the pre-application process, due to its iterative nature as shown in the flowchart in Section 1, the Supervisory Authority will have several points at which to come to a view on how prepared the undertaking is based on the internal model elements reviewed so far. CEIOPS considers that it is in the interest of the undertaking and the Supervisory Authority to communicate their view to the undertaking as soon as possible.
- 6.3. However, it is likely that any opinion formed before a full review of the pre-application material will be a negative one. CEIOPS considers that internal models that do not meet the Solvency II requirements should be relatively easy to come to a view on, as poor practice is often easier to spot than good practice. However, CEIOPS considers that prior to the implementation of the Solvency II regime this will give undertakings the opportunity to prepare well in advance to calculate the SCR using the standard formula, and assess the capital planning implications of the result.
- 6.4. As Supervisory Authorities review internal models during the pre-application process, they will be exposed to more and more modelling approaches, and will be able to compare the efficacy of the use of these different approaches in different undertakings. This may cause a Supervisory Authority to rethink their view of the internal model as reviewed so far.
- 6.5. Another point is that the material available for review during the pre-application is unlikely to encompass the whole of the internal model application. The Section on review (Section 5) covers this in more detail. CEIOPS envisages that material will be reviewed as it becomes available. Whilst the Supervisory Authority may come to a favourable view on what has been reviewed already, CEIOPS has already emphasised the need to link the review of new material to material already reviewed. It may be that as new material is reviewed the conclusions on previously reviewed material may change from favourable to unfavourable.
- 6.6. An example of this could be that the market risk model is reviewed and the supervisory authority deems that it is of good enough quality to indicate that the undertaking is prepared to submit an application for that part of the internal model. However, a subsequent review of the modelling of lapse risk may give rise to some concerns that the combination of

market and lapse risk is not modelled adequately, i.e., the lapse model does not take sufficient account of market effects on lapse rates.

- 6.7. Whilst CEIOPS is aware that undertakings will be keen to get positive information about the quality of their internal model, CEIOPS is concerned that any positive communication would have to be hedged with so many caveats as to make it virtually meaningless. CEIOPS does, however, expect that the review process will include face to face meetings between undertakings and supervisors where they may be the opportunity to share views on the internal model as reviewed so far. This may include, for example, a supervisory authority view on the gaps in the undertaking's application, and may be at a very granular level of detail. Supervisors should bear in mind in making any such communication that there is a danger of giving too early a positive view, so that the undertaking does not develop or consider any alternative approaches to calculating the SCR, leading to adverse regulatory action.
- 6.8. However, the planning process described in Section 4 will tend to ensure that the pre-application process has a defined point for coming to a view. At this point, the final view of the Supervisory Authority will be communicated to the undertaking.
- 6.9. Whilst the views communicated during the process are generally expected to be negative, CEIOPS considers that this is still useful for undertakings as understanding where the Supervisory Authority has come to the view that there are deficiencies in the internal model:
  - gives the undertaking the opportunity to rectify them before making a formal application;
  - gives the undertaking the opportunity to develop an alternative method of calculating the SCR;
  - gives the undertaking the opportunity to revise the internal model scope before making a formal application.
- 6.10. CEIOPS also considers that the review process, which will include on-site visits and face to face meetings, will facilitate feedback from the Supervisory Authority to the undertaking about the internal model. CEIOPS is of the view, based on the useful discussions with undertakings during the programme of pre-visits, that these conversations are of benefit to undertakings when developing their internal model.

## **6.2. Output**

- 6.11. CEIOPS recognises that some undertakings will wish to be able to use an internal model from the earliest possible date to calculate their regulatory capital. This date depends on the timing of the transposition into local Member State rules. Once Solvency II has been implemented, undertakings that take part in the pre-application will already be using the standard formula to calculate the SCR for some or all of their risks. In

both cases, the view given by the Supervisory Authority will be on how prepared the undertaking is to submit an application.

- 6.12. In particular, CEIOPS expects that supervisory authorities will give feedback of the type described in paragraph 6.7 during the pre-application process at least annually (assuming the process lasts more than 12 months).
- 6.13. The group supervisor will communicate the final view on how prepared a group is to submit an application. If there are differences of opinion in the College about the final view, then the group supervisor will highlight these concerns to the undertaking.

### **6.3. General**

- 6.14. CEIOPS' aim is for Supervisory Authorities to give feedback to assist the undertaking to identify deficiencies in the application. The Supervisory Authority may also give feedback as to where the requirements for internal model approval are not met. However, the Supervisory Authority does not take an active part in the development of the internal model - this is clear from the advice given to the European Commission on the tests and standards for internal model approval. The supervisory authority view is likely to contain at least how prepared the undertaking is to submit an application and identification of any gaps in the application.
- 6.15. The most important element of the pre-application is the commitment from the undertaking and the Supervisory Authority to maintain good communication during the process. It is important for the Supervisory Authority to understand the developments in the internal model in order to refine its view of the material. CEIOPS recognises that the Supervisory Authority will need to communicate developments in its views to the undertaking, so that the undertaking can respond and react.
- 6.16. This is particularly important for the review of group internal models, as there is likely to be more than one undertaking involved in the review, and more than one Supervisory Authority. This will make communication more difficult and more important. This is recognised in the planning process for the pre-application.

### **6.4. Consistency of outcomes**

- 6.17. CEIOPS is aiming for consistency of outcomes in respect of the views that Supervisory Authorities come to during the pre-application process. To increase consistency, CEIOPS recommends that Supervisory Authorities:
  - a) Invest in training on internal models, and on the review and assessment of them. CEIOPS plans to provide training to Supervisory Authorities in the pre-implementation period.
  - b) Have the ability to compare internal model practices within a Supervisory Authority.

- c) Communicate between Supervisory Authorities to increase understanding of good practices, and poor practices, in respect of internal models.
- d) Encourage all supervisors concerned to participate actively in the pre application process because this will enhance the expertise and improve supervisory convergence regarding internal models throughout Europe.

6.18. CEIOPS also plans to:

- a) Set up a pre-application work stream to issue further criteria and guidelines in order to promote further convergence in the pre-application process in terms of process and outcomes. This will help to ensure that pre-application processes do not differ considerably either in theory or practice between countries in order to ensure supervisory convergence and consistency of outcomes and to mitigate regulatory arbitrage.
- b) Set up a work stream on technical issues to provide guidance and interpretation on technical questions in respect of the approval process for internal models (from the pre-application phase to decision making phase). This will support the colleges of supervisors, as well as solo supervisors and the pre-application work stream, namely by providing answer to questions connected to pre-application processes raised by Members States in the course of their individual experience and from colleges of supervisors, in order to boost convergence on technical subjects.

6.19. CEIOPS also plans to educate stakeholders in this process by explaining the detail in an EEA-wide conference, with time for questions and answers.

## **7. Rolling information over from review to assessment**

- 7.1. As set out in CEIOPS' advice on the procedure to be followed for the approval of an internal model<sup>21</sup>, one benefit of the pre-application is to help supervisors to plan resources for assessing internal models effectively and efficiently. To this end the Supervisory Authority can use any insights into the quality of the model gathered during the pre-application phase in the assessment of the application.
- 7.2. The information gathered during the pre-application will normally inform the assessment process during the application. The Supervisory Authority may for example focus on the shortcomings identified during the pre-application. Moreover the supervisor's view on the quality of a particular model element formed during the pre-application may influence the intensity of the assessment during the application processes (e.g. if a Supervisory Authority deemed the processes for ensuring data quality appropriate during the pre-application he might reduce the number of data samples during the assessment phase).
- 7.3. Also, the undertaking has to understand the particular position of the supervisor. At the end of the pre-application process the Supervisory Authority may come to the conclusion that the undertaking is ready for an application. But after the application is submitted new information or the new evaluation of existing information may force the Supervisory Authority to reject the internal model, approve it with terms and conditions, approve only certain parts of the model (limited approval) and ask for a plan to extend the scope of the model if applicable the model. So the undertaking must be aware that the flexibility of the Supervisory Authority with regard to the assessment process itself as well as the decision is not restricted by any statement made during the pre-application process.
- 7.4. To facilitate the process the application of the insurance undertaking shall contain a complete record of all enhancements and changes of the internal model since it was reviewed during the pre-application process.

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<sup>21</sup> <http://www.ceiops.eu/media/files/consultations/consultationpapers/CP37/CEIOPS-L2-Final-Advice-Procedure-approval-internal-model.pdf>

# **ANNEX 1: Practical examples of how tasks could be allocated within colleges**

## **A1.1. Introduction**

A1.1. The following examples should be considered as such. Even though they intend to be representative examples, the solutions proposed shall not be seen neither as definitive nor as prescriptive. The examples are high-level and simple to show how the process could work and not how the technical analysis should be done. The differences between examples are highlighted in yellow to assist the reader.

A1.2. All examples are about a hypothetically non life insurance group. The structure and main features of the Group are presented in Example A. For the sake of simplicity CEIOPS assumes that the only risks that solo entities are exposed to are market and insurance underwriting risk<sup>22</sup>. The subsequent examples address several variations of the Example A, these differences are highlighted in each example. The allocation of tasks in all examples is based on some the generic indicative criteria presented in Section 4.1., namely:

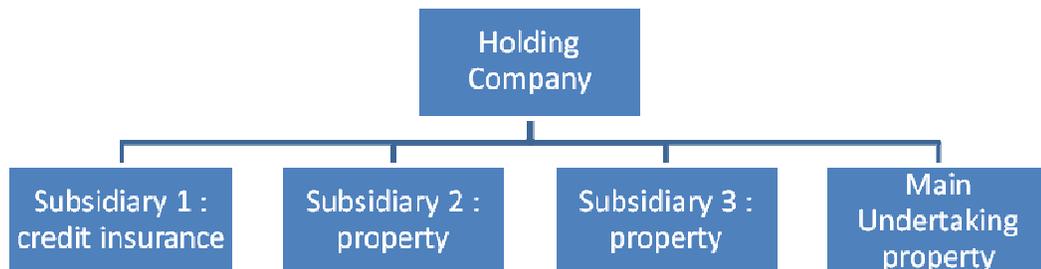
- a) The group supervisor identifies key issues about the group internal model and studies the overall architecture of the group internal model;
- b) The College builds a framework to assess the model based on these preliminary findings from previous College meeting and the group supervisor assessment;
- c) Possible cherry picking situations are identified;
- d) Local specificities are identified;
- e) Group specific risks are identified;
- f) Tasks are allocated between supervisors to avoid burdensome processes;
- g) Structure of the this allocation is consistent with the overall structure of the model;
- h) The allocation of tasks may also take into account:
  - Significance of risk/major business units at group level
  - Significance of risk/major business units at solo level
  - Significance of subsidiaries at local market level (if considered relevant by the local supervisor);

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<sup>22</sup> Not a realistic assumption as those entities and the group would be necessarily exposed at least to credit and operational risk

- i) Whenever several supervisors are assessing the adequacy of the Group Internal Model for the Group SCR calculation the work will be normally coordinated by the group supervisor. There may be however some specific circumstance where the work may be coordinated by a different solo supervisor, for example when the exposure to certain risk or the materiality of a certain major business unit derives mainly from a subsidiary supervised by that Supervisory Authority, inter alia.

## A1.2. Example A: A model with specialities located in one entity and other entities writing the same business



### *Findings from previous Colleges*

A1.3. During previous Colleges, supervisors will probably have gathered important information about the group structure and the high-level picture of risks taken. For example:

- a) Subsidiary 2 (S2) and Subsidiary 3 (S3) underwrite only property insurance, although in different countries and have no CAT exposure;
- b) The Main Undertaking (U) is from the same country of the Holding Company (H) and only underwrites the same business as S2 and S3 (in other countries than S2 and S3) with no CAT exposure;
- c) The credit insurance risk is material for the group, but all the exposures are in Subsidiary 1 (S1) (which underwrites only credit insurance);
- d) Four different supervisors are involved (supervisors of S1, S2, S3, H (U));
- e) All the assets are managed by a dedicated asset manager common for all subsidiaries.

### *Preliminary analysis*

A1.4. The group supervisor discusses with the group to find out the most relevant information about the internal model and how this can lead to an optimal allocation of tasks.

A1.5. Suppose that in this example, he discovers the following information:

- a) The group model would include market risk + non-life risks (property + credit);

- b) The credit risk is only material in S1 and this subsidiary is responsible for everything that is linked to credit insurance and ultimately delivers a probability distribution for the profit and losses linked to this activity to the holding company;
- c) The holding company is responsible for calculating the probability distribution for P&L related to property from an aggregated point of view irrespectively of the situation of the risk;
- d) The holding company and this asset manager are responsible for calculating the probability distribution for P&L related to market risks from an aggregated point of view irrespectively of the situation of the risk;
- e) The internal model should also calculate the solo SCRs for U, S1, S2 and S3.

*Outcome of the first discussions within the College*

A1.6. The College could then decide that the review of the model will be done in five steps:

1. Review of the credit insurance risk
2. Review of the property risk
3. Review of the market risks
4. Review of the aggregation mechanisms
5. Review of the solo SCRs

*Review of credit insurance*

A1.7. Because the risk is material only in S1 and this subsidiary is responsible for everything that is linked to credit insurance, the most efficient way to review this would probably be to leave the task to the supervisors of S1 who would have to report their findings to the college of supervisors.

A1.8. However since the risk is material at Group Level the Group supervisor should do a high level review of the Group model and should be involved in the detailed assessment of this risk lead by S1.

*Review of Property risks*

A1.9. Because the holding company is responsible for calculating the probability distribution for P&L related to property, one possible way to delegate tasks could be:

- a) Supervisors of U, S2 and S3 review how their respective subsidiaries feed the group model (claims database, exposure database...);

- b) Supervisors of H(U), S2 and S3 review the appropriateness of the property model, including how dependencies are considered both at Group level and at solo level;
- c) The supervisors of H(U), S2 and S3 should do a high level review of the Group model;
- d) A more detailed review of the Group model should be done by the Supervisory Authority of H(U) and the Supervisory Authority of S2 and/or S3 depending on the materiality of this risk/major business unit both at solo and group level and on the materiality of the subsidiaries at local market. Supervisors of subsidiaries should be involved whenever risks/major business units are material at group level or whenever risks/major business units are material for solo SCR calculation and those supervisors express the intention to do so. Supervisors of subsidiaries should also be involved in this process whenever the subsidiaries are relevant at the local market and those supervisors express the intention to do so;
- e) A more detailed review of the model at solo level should be done by respective Supervisory Authority (see 3.5 Review of the solo SCRs).

*Review of Market risks*

A1.10. Because all the assets are managed by a dedicated asset manager common for all subsidiaries and because in the internal model the holding company and this asset manager are responsible for calculating the probability distribution for P&L related to market risks, one possible way to delegate tasks would be:

- a) All the supervisors review the quality of information provided by the asset manager;
- b) All the supervisors review the appropriateness of the asset model, including how dependencies between dependencies are considered both at Group level and at solo level;
  - b.1. All supervisors should do a high level review of the Group model
  - b.2. A more detailed review of the Group model should be done by the Supervisory Authority of H and by the local supervisors depending on the materiality of this risk both at solo and group level and on the materiality of the subsidiaries at local market (if considered relevant by the local supervisor)
  - b.3. A more detailed review of the model at solo level should be done by respective Supervisory Authority (see 3.5 Review of the solo SCRs)

### *Review of the aggregation mechanism*

A1.11. All the supervisors involved see whether the overall aggregation is acceptable or not, both a solo (see 3.5 Review of the solo SCRs) and at group level

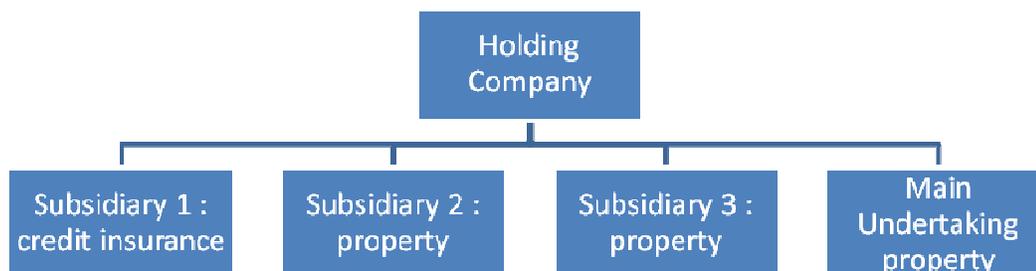
### *Review of the solo SCRs*

A1.12. For all subsidiaries, the local supervisor can have a look at the way intra-group transactions are handled in the solo model. If they are handled the same way everywhere, a common review could be done.

A1.13. For all subsidiaries, the local supervisor should check the calibration of the model for solo purposes:

- a) For market risks, considering that the assets are managed centrally, it is likely that the group model is transposed at solo level. Attention should be paid to see if the combined asset and liability portfolio from solo undertakings deviates significantly from the Group portfolio, that may justify differences in the calibration of risks and/or dependencies;
- b) For credit risk, because the group model is built by the subsidiary, the model should also be the same at solo level, and therefore it is likely that no further check is needed;
- c) For property risk, the core model would also have been reviewed at group level, but all local supervisors with property exposure would have to check the calibration at solo level. Because the number of risks will be lower at solo level, their dispersion will logically be different;
- d) Supervisors of H (for U), S2 and S3 should evaluate if the risk profile of the respective subsidiaries significantly deviate from the assumptions underlying the Group Internal Model (including assumptions and methodology, data, risks, diversification benefits, risk mitigation, options and guarantees, management action and expected payments);
- e) Supervisors H (for U), S1, S2 and S3 should evaluate the adequacy of the governance requirements and the compliance with the remaining test and standards set in the L1 text.

### **A1.3. Example A1: Where the contribution of some entities to the common risk exposure is immaterial**



#### *Findings from previous Colleges*

A1.14. During previous Colleges, supervisors will probably have gathered important information about the group structure and the high-level picture of risks taken. For example:

- a) Subsidiary 2 (S2) and Subsidiary 3 (S3) only underwrite property insurance, although in different countries and have no CAT exposure;
- b) The Main Undertaking (U) is from the same country of the Holding Company (H) and only underwrites the same business as S2 and S3 (in other countries than S2 and S3) with no CAT exposure;
- c) The credit insurance risk is material for the group, but all the exposures are in Subsidiary 1 (S1);
- d) S1 underwrites also property business;
- e) The exposure to property risk in S1 is not material at solo and group level;
- f) S1 is a material undertaking in its respective country;
- g) Four different supervisors are involved (supervisors of S1, S2, S3, H (U));
- h) All the assets are managed by a dedicated asset manager common for all subsidiaries.

#### *Preliminary analysis*

A1.15. Same as in example A.

#### *Outcome of the first discussions within the College*

A1.16. Same as in example A.

*Review of credit insurance*

A1.17. Same as in example A.

*Review of Property risks*

A1.18. Because the holding company is responsible for calculating the probability distribution for P&L related to property, one possible way to delegate tasks could be:

- a) Supervisors of U, S1 S2 and S3 review how their respective subsidiaries feed the group model (claims database, exposure database...);
- b) Supervisors of H(U), S1, S2 and S3 review the appropriateness of the property model, including how dependencies are considered both at Group level and at solo level;
- c) The supervisors of H(U), S1, S2 and S3 should do a high level review of the Group model;
- d) A more detailed review of the Group model should be done by the Supervisory Authority of H(U) and the supervisors of S1 (if this Supervisory Authority considers it relevant), S2 and/or S3 depending on the materiality of this risk/major business unit both at solo and group level and on the materiality of the subsidiaries at local market. Supervisors of subsidiaries should be involved whenever risks/ major business units are material at group level or whenever risks/ major business units are material for solo SCR calculation and those supervisors express the intention to do so. Supervisors of subsidiaries should also be involved in this process whenever the subsidiaries are relevant at the local market and those supervisors express the intention to do so;
- e) A more detailed review of the model at solo level should be done by respective Supervisory Authority (see 3.5 Review of the solo SCRs).

*Review of Market risks*

A1.19. Same as in example A.

*Review of the aggregation mechanism*

A1.20. Same as in example A.

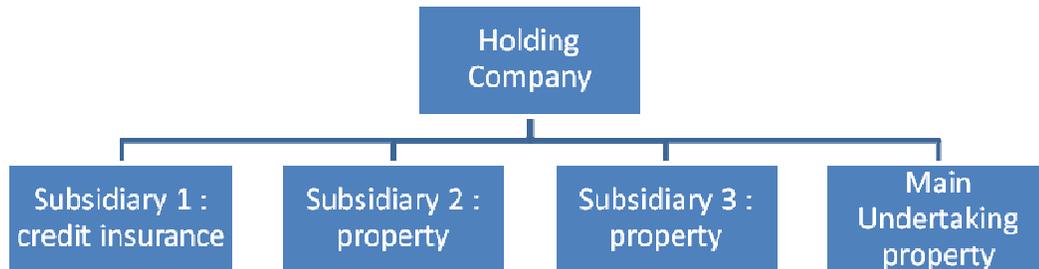
*Review of the solo SCRs*

A1.21. For all subsidiaries, the local supervisor can have a look at the way intra-group transactions are handled in the solo model. If they are handled the same way everywhere, a common review could be done.

A1.22. For all subsidiaries, the local supervisor should check the calibration of the model for solo purposes:

- a) For market risks, considering that the assets are managed centrally, it is likely that the group model is transposed at solo level. Attention should be paid to see if the combined asset and liability portfolio from solo undertakings deviates significantly from the Group portfolio, that may justify differences in the calibration of risks and/or dependencies;
- b) For credit risk, because the group model is built by the subsidiary, the model should also be the same at solo level, and therefore it is likely that no further check is needed;
- c) For property risk, the core model would also have been reviewed at group level, but all local supervisors with property exposure would have to check the calibration at solo level. Because the number of risks will be lower at solo level, their dispersion will logically be different;
- d) Supervisors of H (for U), S1, S2 and S3 should evaluate if the risk profile of the respective subsidiaries significantly deviate from the assumptions underlying the Group Internal Model (including assumptions and methodology, data, risks, diversification benefits, risk mitigation, options and guarantees, management action and expected payments);
- e) Supervisors H (for U), S1 S2 and S3 should evaluate the adequacy of the governance requirements and the compliance with the remaining tests and standards set in the Level1 text.

## A1.4. Example B: Where a specialty is immaterial at group level and not modelled at solo level



### *Findings from previous Colleges*

A1.23. During previous Colleges, supervisors will probably have gathered important information about the group structure and the high-level picture of risks taken. For example:

- a) Subsidiary 2 (S2) and Subsidiary 3 (S3) only underwrite property insurance, although in different countries and have no CAT exposure;
- b) The Main Undertaking (U) is from the same country of the Holding Company (H) and only underwrites the same business as S2 and S3 (in other countries than S2 and S3) with no CAT exposure;
- c) The credit insurance risk is not material for the group, and the exposures are in subsidiary 1 (S1) (exposure material for S1) and in subsidiary 3 (exposure non-material for S3);
- d) Four different supervisors are involved (supervisors of S1, S2, S3, H (U));
- e) All the assets are managed by a dedicated asset manager common for all subsidiaries.

### *Preliminary analysis*

A1.24. The group supervisor discusses with the group to find out the most relevant information about the internal model and how this can lead to an optimal allocation of tasks.

A1.25. Suppose that in this example, he discovers following information:

- a) The group model would include market risk + non-life risks (property + credit);
- b) The credit risk is not material for the group and will be dealt with in a simpler model developed by the group taking into account the proportionality principle;

- c) The holding company is responsible for calculating the probability distribution for P&L related to property from an aggregated point of view irrespectively of the situation of the risk;
- d) The holding company and this asset manager are responsible for calculating the probability distribution for P&L related to market risks from an aggregated point of view irrespectively of the situation of the risk;
- e) The internal model should also calculate the solo SCRs for U, S2 and S3, whereas S1 would uses a partial internal model, i.e. the market risk is modelled using the Group model and the insurance underwriting risk is modelled using the standard formula.

*Outcome of the first discussions within the College*

A1.26. The College could then decide that the review of the model will be done in five steps:

1. Review of the credit insurance risk
2. Review of the property risk
3. Review of the market risks
4. Review of the aggregation mechanisms
5. Review of the solo SCRs

*Review of credit insurance*

A1.27. Because the risk is only material in subsidiary 1 but is dealt with at group level in the group internal model, the most efficient way to review this would probably be to leave the task to the supervisors of subsidiary 1 and to the group supervisor. They could then decide whether the simpler model is adequate at group level.

*Review of Property risks*

A1.28. Same as in example A.

*Review of Market risks*

A1.29. Same as in example A.

*Review of the aggregation mechanism*

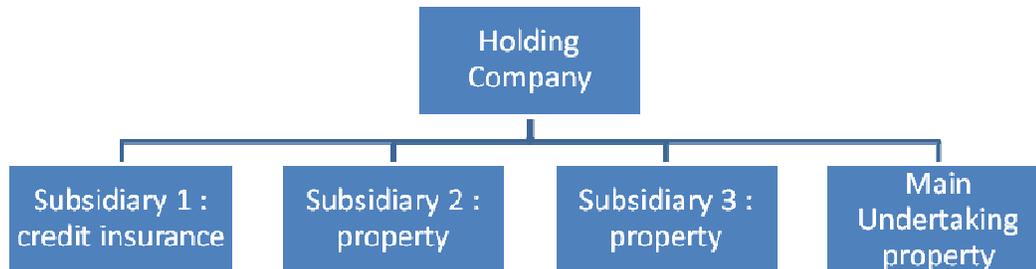
A1.30. Same as in example A.

*Review of the solo SCRs*

- a) For U, S2 and S3, the local supervisors do same as example 1;

- b) For S1, the local supervisor does the assessment of the calibration for market risk as in example A, plus the assessment of the requirements concerning partial internal models and the assessment of whether the assumptions of the standard formula do not significantly deviate from the risk profile of the insurance undertaking in insurance underwriting risk. Finally the Supervisory Authority should assess if the risk profile of the insurance undertaking as whole is adequately represented and the SCR is adequately calculated.

## **A1.5. Example B1: Where for specialities immaterial at group level, a specific model is used at solo level**



### *Findings from previous Colleges*

A1.31. During previous Colleges, supervisors will probably have gathered important information about the group structure and the high-level picture of risks taken. For example:

- a) Subsidiary 2 (S2) and Subsidiary 3 (S3) only underwrite property insurance, although in different countries and have no CAT exposure;
- b) The Main Undertaking (U) is from the same country of the Holding Company (H) and only underwrites the same business as S2 and S3 (in other countries than S2 and S3) with no CAT exposure;
- c) The credit insurance risk is not material for the group, and the exposures are in subsidiary 1 (S1) (exposure material for S1) and in subsidiary 3 (exposure non-material for S3);
- d) Four different supervisors are involved (supervisors of S1, S2, S3, H (U));
- e) All the assets are managed by a dedicated asset manager common for all subsidiaries.

### *Preliminary analysis*

A1.32. The group supervisor discusses with the group to find out the most relevant information about the internal model and how this can lead to an optimal allocation of tasks.

A1.33. Suppose that in this example, he discovers following information:

- a) The group model would include market risk + non-life risks (property + credit);
- b) The credit risk is not material for the group and will be dealt with in a simpler model developed by the group taking into account the proportionality principle;

- c) The holding company is responsible for calculating the probability distribution for P&L related to property from an aggregated point of view irrespectively of the situation of the risk;
- d) The holding company and this asset manager are responsible for calculating the probability distribution for P&L related to market risks from an aggregated point of view irrespectively of the situation of the risk;
- e) The Group internal model should also calculate the solo SCRs for U, S2 and S3, whereas in S1 the Group internal model is used only to model market risk and a more sophisticated internal model (taking into account the proportionality principle) is used at solo level to model insurance underwriting risk. The aggregation mechanism between market risk and insurance risk is the same.

*Outcome of the first discussions within the College*

A1.34. The College could then decide that the review of the model will be done in five steps:

1. Review of the credit insurance risk
2. Review of the property risk
3. Review of the market risks
4. Review of the aggregation mechanisms
5. Review of the solo SCRs

*Review of credit insurance*

A1.35. Because the risk is only material in S1 but is dealt with at group level in the group internal model, the most efficient way to review this would probably be to leave the task to the supervisors of S1 and to the group supervisor. They could then decide whether the simpler model is good enough at group level, and assess any potential cherry picking situation, and also evaluate the possibility of requiring the undertaking to use solo internal model also at group level (if feasible, adequate and proportionate).

A1.36. To carry on this analysis a high level review of the solo model should be carried out by the supervisors of S1 and H, and a more detailed review of the solo model should be conducted by the Supervisory Authority of S1 (see 3.5 Review of the solo SCRs).

*Review of Property risks*

A1.37. Same as in example A.

*Review of Market risks*

A1.38. Same as in example A.

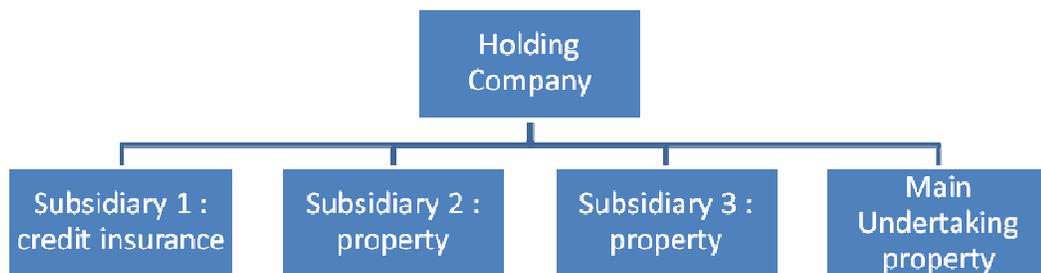
*Review of the aggregation mechanism*

A1.39. Same as in example A.

*Review of the solo SCRs*

- a) For U, S2 and S3, the local supervisor do same as example 1;
- b) For S1, the local supervisor does the assessment of the calibration for market risk as in example A, plus the assessment of the requirements concerning internal models regarding the insurance underwriting risk and finally regarding the aggregated model as a whole. Finally the Supervisory Authority should assess if the risk profile of the insurance undertaking as whole is adequately represented and the SCR is adequately calculated.

## A1.6. Example C: Shared local specificities



### *Findings from previous Colleges*

A1.40. During previous Colleges, supervisors will probably have gathered important information about the group structure and the high-level picture of risks taken. For example:

- a) Subsidiary 2 (S2) and Subsidiary 3 (S3) only underwrite property insurance, although in different countries and have material CAT exposure both at solo and at group level;
- b) The Main Undertaking (U) is from the same country of the Holding Company (H) and only underwrites the same business as S2 and S3 (in other countries than S2 and S3) with no CAT exposure;
- c) The credit insurance risk is material for the group, but all the exposures are in Subsidiary 1 (S1) (which only underwrites credit insurance);
- d) Four different supervisors are involved (supervisors of S1, S2, S3, H (U));
- e) All the assets are managed by a dedicated asset manager common for all subsidiaries.

### *Preliminary analysis*

A1.41. Same as in example A.

### *Outcome of the first discussions within the College*

A1.42. Same as in example A.

### *Review of credit insurance*

A1.43. Same as in example A.

### *Review of Property risks*

A1.44. Because the holding company is responsible for calculating the probability distribution for P&L related to property, one possible way to delegate tasks could be:

- a) Supervisors of U, S2 and S3 review how their respective subsidiaries feed the group model (claims database, exposure database...);
- b) Supervisors of H(U), S2 and S3 review the appropriateness of the property model, including how dependencies are considered both at Group level and at solo level and including the CAT model;
- c) The supervisors of H(U), S2 and S3 should do a high level review of the Group model;
- d) A more detailed review of the Group model should be done by the Supervisory Authority of H(U) and the Supervisory Authority of S2 and/or S3 depending on the materiality of this risk/major business unit both at solo and group level and on the materiality of the subsidiaries at local market. A more detailed review of the model at solo level should be done by respective Supervisory Authority (see 3.5 Review of the solo SCRs);
- e) In particular for the CAT model
  - e.1. Supervisors of S2 and S3 should review the appropriateness of the CAT model at solo level
  - e.2. Supervisors of S2, S3 and G should review the modelling consistency between subsidiary S2 and S3 where appropriate
  - e.3. Supervisory Authority of G, S2 and S3 should review appropriateness of the CAT model for group SCR.

### *Review of Market risks*

A1.45. Same as in example A.

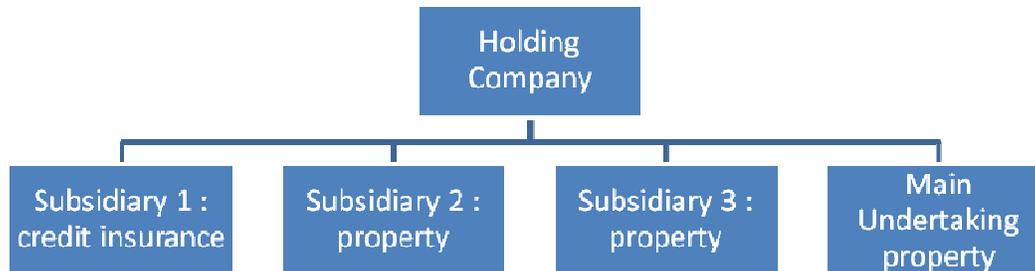
### *Review of the aggregation mechanism*

A1.46. Same as in example A.

### *Review of the solo SCRs*

A1.47. Same as in example A.

## A1.7. Example D: Where the group faces group-specific risks



### *Findings from previous Colleges*

A1.48. When assessing the risk profile of the group, supervisors may have gathered information on risks that only arise at the level of the group (e.g. contagion risk). These are certain categories of risks that affect an undertaking via its membership of a group. The group internal model should be assessed to see how it addresses any 'group-specific' risks.

A1.49. The following example looks at the assessment of significant risk concentration at group level. As a starting point take the scenario from Example A:

- a) Subsidiary 2 (S2) and Subsidiary 3 (S3) only underwrite property insurance, although in different countries and have no CAT exposure;
- b) The Main Undertaking (U) is from the same country of the Holding Company (H) and only underwrites the same business as S2 and S3 (in other countries than S1 and S2) with no CAT exposure;
- c) The credit insurance risk is material for the group, but all the exposures are in Subsidiary 1 (S1) (which only underwrites credit insurance);
- d) Four different supervisors are involved (supervisors of S1, S2, S3, H (U));
- e) All the assets are managed by a dedicated asset manager common for all subsidiaries.

A1.50. However, in this example the property risk exposures of U, S2 and S3 and the credit insurance risk exposure to a non-insurance related entity external to the group – Company X are material (for all subsidiaries). The example also assumes that H has invested in subordinated debt issued by Company X as part of its investment portfolio.

### *Preliminary analysis*

A1.51. The group supervisor discusses with the group to find out the most relevant information about the internal model and how this can lead to an

optimal allocation of tasks. The group supervisor discusses the internal model with the group to find out how it captures risks that arise at group level. In this example, the group supervisor discovers the following information:

- a) The group model would include market risk + non-life risks (property + credit);
- b) The credit risk is only material in S1 and this subsidiary is responsible for everything that is linked to credit insurance;
- c) The holding company is responsible for calculating the probability distribution for P&L related to property from an aggregated point of view irrespectively of the situation of the risk;
- d) The holding company and this asset manager are responsible for calculating the probability distribution for P&L related to market risks from an aggregated point of view irrespectively of the situation of the risk;
- e) The internal model should also calculate the solo SCRs for U, S1, S2 and S3.

*Outcome of the first discussions within the College*

A1.52. The College decides to review the following:

- a) Review of the credit insurance risk;
- b) Review of the property risk;
- c) Review of the market risks;
- d) Review of the aggregation mechanisms;
- e) Review of solo SCR;
- f) Review of the group specific risks in the group SCR.

*Review of credit insurance*

A1.53. Because the risk is only material in S1 and this subsidiary is responsible for everything that is linked to credit insurance, the most efficient way to review this would be to leave the task to the Supervisory Authority of S1 who would report their findings to the college of supervisors. However since the risk is material at group level the group supervisor should do a high level review of the group model and should be involved in the detailed assessment of this risk lead by S1, including identifying risk concentrations (Company X).

### *Review of Property risks*

A1.54. Because the holding company is responsible for calculating the probability distribution for P&L related to property, one possible way to delegate tasks could be:

- a) Supervisors of U, S2 and S3 review how their respective subsidiaries feed the group model (claims database, exposure database...);
- b) Supervisors of H(U), S2 and S3 review the appropriateness of the property model, including how dependencies are considered both at Group level and at solo level;
- c) The supervisors of H(U), S2 and S3 should do a high level review of the Group model;
- d) A more detailed review of the Group model should be done by the Supervisory Authority of H(U) and the Supervisory Authority of S2 and/or S3 depending on the materiality of this risk/major business unit both at solo and group level and on the materiality of the subsidiaries at local market;
- e) The Supervisory Authority of H(U) should assess the impact of S2 and S3 exposure to Company X on a consolidated basis. It is important that this is undertaken at group level as this combination of a single exposure may not be apparent at solo level to the solo supervisor;
- f) Supervisors of subsidiaries should be involved in the assessment of group specific risks whenever these risks are material at group level or whenever these risks are material for solo SCR calculation and those supervisors express the intention to do so. Supervisors of subsidiaries should also be involved in this process whenever the subsidiaries are relevant at the local market and those supervisors express the intention to do so.

### *Review of Market risks*

A1.55. Because all the assets are managed by a dedicated asset manager common for all subsidiaries and because in the internal model the holding company and this asset manager are responsible for calculating the probability distribution for P&L related to market risks, one possible way to delegate tasks would be:

- a) All the supervisors review the quality of information provided by the asset manager;
- b) All the supervisors review the appropriateness of the asset model, including how dependencies between risks are considered both at Group level and at solo level:
  - b.1. All supervisors should do a high level review of the Group model;

- b.2. A more detailed review of the Group model should be done by the Supervisory Authority of H and by the local supervisors depending on the materiality of this risk both at solo and group level and on the materiality of the subsidiaries at local market (if considered relevant by the local supervisor);
- c) The market risk associated with the H's investment in the subordinated debt in Company X should be considered at group level, in particular, with respect to the other related risk exposures;
- d) A more detailed review of the model at solo level should be done by respective Supervisory Authority (see 3.5 Review of the solo SCRs).

*Review of the aggregation mechanism*

A1.56. Same as in example A

*Review of solo SCR*

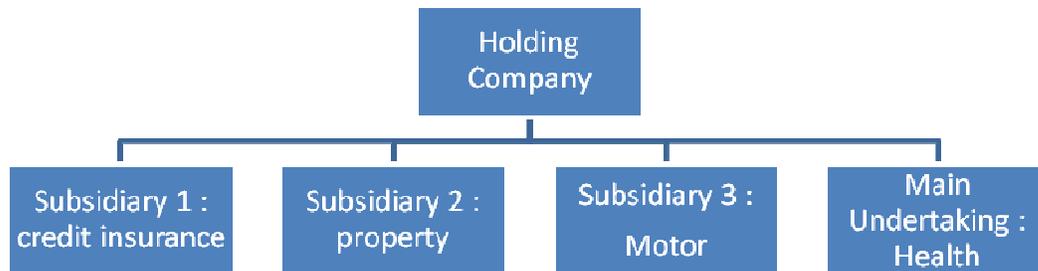
A1.57. Same as in example A

*Review of group specific risks in the group SCR*

A1.58. For all subsidiaries, the local supervisor can assess how risk exposures are captured in the solo internal model. However, in this example, the group has multiple exposures to a party external to the group that, while not significant on an individual level (i.e. solo level), when considered on a consolidated basis represent a significant risk concentration to the group. Therefore, the group supervisor in co-operation with the relevant Supervisory Authorities should assess whether the group SCR calculated by the group internal model sufficiently captures the exposure to Company X that arise at group level. In this example, if Company X were to become insolvent, that event would crystallize a series of risks to the entities in the group.

A1.59. In CEIOPS-DOC-52/09, CEIOPS outlined the methodology for assessing group-specific risks when calculating group solvency. CEIOPS considers that these risks should be taken into account in the calculation of the SCR so that their materiality and compliance with Articles 112 to 126 of the Framework Directive should be ensured. CEIOPS also notes that the last resort measure is to require a group capital add-on pursuant to Article 232. Therefore, it is recommended that the group supervisor discusses with the group how it intends to capture group-specific risks within the group internal model framework. The group supervisor should then discuss with the other supervisors in the college the impact of those risks at group and solo level.

## A1.8. Example E: Where the group only aggregates solo SCR's



### *Findings from previous Colleges*

A1.60. All subsidiaries underwrite different business which is material both at solo and at group level.

A1.61. All asset portfolios have different risk profiles and are managed at local level.

### *Preliminary analysis*

A1.62. The group supervisor discusses with the group to find out the most relevant information about the internal model and how this can lead to an optimal allocation of tasks. In this example, the group supervisor discovers the following information:

- a) All the subsidiaries are responsible for calculating their solo SCR's with a dedicated solo internal model. All internal models of the subsidiaries are different, no common platform or data base is shared;
- b) The group collects all the probability distribution functions from the solo SCR's and aggregates them to derive the overall probability distribution function.

### *Outcome of the first discussions within the College*

A1.63. The College decides to review the following:

- a) Review of solo SCR's;
- b) Review of the aggregation mechanism.

### *Review of the solo SCR's*

A1.64. Each of the supervisors reviews the solo model for the undertakings in his country and assesses whether the model produces an accurate probability distribution function.

A1.65. In this case, the approval of these solo internal models would logically be common for the group SCR and for the solo SCRs, that is, they are reviewed together, since, in this case, deficiencies in a solo model will result in deficiencies in the Group model.

*Review of the aggregation mechanism*

A1.66. The group will adjust these solo SCRs for intra-group transactions or other differences that may occur between a solo perspective and a group perspective for each of the entities. All the supervisors could be involved, depending of the materiality of the respective entities in the group or in their country, to assess whether the adjustments are adequate.

A1.67. The same supervisors could also review the aggregation mechanism to see whether it takes into account accurately dependencies that may occur between the risk profiles of the different entities.

## **Annex 2: Role of the Coordination Committee in the Pre-Application Process for a Group Internal Model**

- A2.1. The Insurance Groups Directive (IGD)<sup>23</sup> establishes the current framework for how supervisors cooperate in the supplementary supervision of insurance groups with undertakings in more than one Member State. The IGD established the principle for enhanced cooperation between Supervisory Authorities to facilitate group supervision.
- A2.2. The 2000 Helsinki Protocol built on this principle and noted that practical cooperation between supervisors can be facilitated through the creation of “Coordination Committees” (renamed since Colleges of Supervisors). In general, Colleges consist of the line supervisors of undertakings within a group subject to the IGD. Further to the Helsinki Protocol, CEIOPS developed a set of guidelines on the operation of Colleges.<sup>24</sup> The guidelines are designed to promote a consistent approach to group supervision and increase the effectiveness of the Colleges.
- A2.3. The College guidelines established the role of a “lead supervisor” to facilitate the work of the College. The role of the lead supervisor is to collect and analyse relevant information on the group and distribute it to the other members of the College. As a general rule, the lead supervisor is appointed by unanimity by the members of the College. In practice, the lead supervisor is usually the Supervisory Authority in which the participating undertaking responsible for the IGD calculation is domiciled.
- A2.4. The guidelines note that the activities of the committee should be determined by the College itself, however, it recommends that each College cover at least the following areas:
- a) Structure and strategy of the group;
  - b) Internal control mechanisms and risk management processes;
  - c) Capital issues;
  - d) Adjusted solvency requirements;
  - e) Intra-group transactions and exposures.
- A2.5. The College guidelines do not prescribe any specific decision-making powers to the lead supervisor or other members of the committee. Each College must determine its own internal process for reaching an agreement related to group supervision. Ensuring compliance with the adjusted solo calculation is the responsibility of solo supervisors as will be the case under Solvency II.

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<sup>23</sup> Directive 98/78/EC

<sup>24</sup> [http://www.ceiops.eu/media/files/publications/standardsandmore/guidelines/guidelines\\_coordination.pdf](http://www.ceiops.eu/media/files/publications/standardsandmore/guidelines/guidelines_coordination.pdf)

## *Solvency II*

- A2.6. The issue is whether the current supervisory cooperation framework under the IGD gives supervisors sufficient scope to assess the pre-application for a group internal model prior to the implementation of Solvency II (Level 1 text). The Level 1 text prescribes the specific responsibilities and powers of supervisors in the approval of a group internal model within the forum of the College of Supervisors. However, unlike the Level 1 text, the IGD does not prescribe the specific duties and decision-making powers of supervisors in a College.
- A2.7. There is no specific mandate to assess internal models within a College as the use of internal models is not provided for under Solvency I. However, CEIOPS considers that the current framework established by the IGD and developed in the College guidelines provides sufficient flexibility to account for the pre-application process. On the basis that the lead supervisor has the mandate to facilitate the exchange of information and coordinate the activities of the College with respect to the group, CEIOPS considers that this also applies for the pre-assessment of the group internal model. For these reasons, CEIOPS considers that it is unnecessary to make any amendments to the current College guidelines to account for the pre-application process.
- A2.8. The College guidelines outline a number of areas that are relevant to group supervision under Solvency II. In particular, the guidance on group solvency and the respective roles of the lead supervisor and College members are similar to the assessment of the group SCR. This includes assessing information on the group adjusted solvency margin, the methods of calculation for group solvency,<sup>25</sup> and any changes to the scope of the group. The College guidelines also outline the assessment of group own funds, including the identification of any restrictions on the transferability of capital. The assessment of group solvency and capital in particular, are relevant to the calculation of the group SCR using an internal model.
- A2.9. With respect to the decision-making process, CEIOPS considers that the current approach whereby the College determines its own processes for reaching agreements should apply for the pre-application process. This is consistent with Article 248(5)(a) of the Level 1 text, which notes that the coordination arrangements of the College of Supervisors should specify the procedures for the decision-making processes in accordance with Article 231. While Article 231 prescribes the specific decision-making powers of supervisors, CEIOPS notes that the intent of the pre-application process is not to reach a decision on the internal model, but rather to come to a view on how prepared the undertaking is to submit an application. Hence, allowing the College to determine the processes for forming a view on the preparedness of the group internal model application is consistent with the current approach and with Solvency II.

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<sup>25</sup> The IGD provides for three methods for the group calculation

A2.10. As a general principle, CEIOPS considers that the current arrangements of the Colleges should form the basis for the College of Supervisors under Solvency II. Hence, the pre-application process may serve as a useful exercise in preparing supervisors for the changes to group supervision that will occur when the new regime comes into force. In preparing for Solvency II, the exercise may also present an opportunity for Colleges to apply the 10 common principles on Colleges of Supervisors that should apply to insurance, banking and financial conglomerates. CEIOPS notes that the 10 common principles make a specific reference to internal models with respect to on-site visits and joint examinations.

