

# ASSESSMENT OF VP SECURITIES



DANMARKS  
NATIONALBANK



FINANSTILSYNET



# SUMMARY

The Danish system for safekeeping and settlement of securities is safe and efficient. That is the main conclusion of the assessment of VP Securities A/S, VP, performed by Danmarks Nationalbank and the Danish Financial Supervisory Authority (hereinafter the DFSA).

VP is the only firm in Denmark authorised to issue securities and provide safekeeping and settlement services for securities. All stock exchange listed Danish securities and various other securities are held at VP. The market value of securities held at VP was approximately kr. 7,800 billion in 2015, and daily securities transactions averaged around kr. 205 billion.

The extensive volume of VP's core business, i.e. safekeeping and settlement of securities, place high demands on VP's security level. At the same time, VP's status as the only player in Denmark means that the system must be efficient so that VP's customers, i.e. financial institutions and their customers, do not incur excessive costs.

It is the assessment of Danmarks Nationalbank and the DFSA that VP's system is both safe and efficient. VP observes the vast majority of the requirements in the standards for securities settlement systems laid down by authorities across national borders.

VP has clear lines of responsibilities within its organisation, including responsibilities for risk management. The framework for risk management at VP is extensive, reliable and efficient. VP's cost-effectiveness is assessed on a regular basis, including by involving VP's customers. There is fair and open access to participation in VP's systems and all important rules and regulations, guide-

lines and technical descriptions are available in Danish and English at VP's website.

## **Danmarks Nationalbank and the DFSA have made four recommendations to VP:**

Firstly, VP should adjust the composition of its Board so as to include independent members. Secondly, recovery and resolution plans for VP must be established to ensure that VP's core tasks can continue, even in the event of business-related difficulties. These two recommendations are also requirements under new legislation for securities settlement systems. Thirdly, VP should participate in a strengthened cooperative arrangement in relation to addressing the risks that may spread within the sector due to interdependencies. Fourthly, VP should publicly disclose key aspects of its guidelines for addressing situations where one or more of VP's customers are affected by operational failure.



# 1.

## INTRODUCTION

As the only firm in Denmark, VP is authorised to carry out activities as a central securities depository and clearing centre. VP is a systemically important part of Denmark's financial infrastructure. The DFSA and Danmarks Nationalbank have conducted an assessment of whether VP observes the applicable international standards for safe and efficient financial market infrastructures, FMIs. The assessment covers VP's core business areas, i.e. tasks related to issuance, safekeeping and settlement of securities.

This report presents the results of the assessment of VP. The report assesses VP's observance of principles laid down by authorities across different jurisdictions as standards for FMIs. The content of the report is fairly technical and requires profound knowledge of VP as a company and of the principles applying in this area. For further information, reference is made to VP's own descriptions and to reports issued by the organisations responsible for laying down the principles.<sup>1</sup>

The rest of this section 1 describes the background to the report, i.e. the basis for the assessment and the methodology applied. Section 2 provides an overall assessment of whether VP observes the principles underlying the assessment. Section 3 describes how VP observes the principles and presents the DFSA's and Danmarks Nationalbank's recommendations for improvements. Section 4 concludes the report with a plan for when VP should observe the recommendations.

### 1.1 SECURITIES SETTLEMENT IN DENMARK

VP settlement is the Danish securities settlement system. VP also undertakes other key securities functions, including issuance and registration of ownership of securities, handling of periodic payments, emissions, redemptions, etc. The main characteristics of VP's core business areas are as follows:

- VP settlement is the only securities settlement system in Denmark.
- In 2015, an average of approximately 67,000 daily transactions were settled, totalling around kr. 205 billion in value.
- 142 banks and investment firms participate directly in VP settlement.
- VP is the only Danish system for issuance and registration of rights in relation to securities.
- At end-2015, securities with a total value of around kr. 7,800 billion were registered.
- 110 account controllers are entitled to open and control accounts at VP.
- There are 3.3 million safe-custody accounts for securities, distributed on 1.9 million account holders.

VP's status as the only central securities depository and securities settlement system and the volume of transactions settled in VP on a daily basis underscore VP's systemically important role in the Danish financial infrastructure. In the worst case, major errors and disruptions at VP could jeopardise financial stability or weaken confi-

---

<sup>1</sup> The relevant reports from BIS can be found at its website under CPMI ([link](#)).

dence in the financial system. Consequently, it is important for VP to observe international safety and security standards. Furthermore, VP's systems should be efficient so that participants, i.e. financial institutions and their customers, do not incur unnecessary costs. However, cost-efficiency must always be weighed against the need for safety and security.

## 1.2 THE ROLES OF THE DFSA AND DANMARKS NATIONALBANK

VP is authorised to carry out activities as a central securities depository and clearing centre in accordance with section 8 of the Danish Securities Trading Act.

The DFSA has a duty to supervise VP as a central securities depository and clearing centre, including to ensure that VP's rules and regulations, organisational plans, procedures and control and security measures are adequate and in accordance with the Danish Securities Trading Act, cf. section 86(1) of the Act.

Danmarks Nationalbank's overall role in relation to payment and settlement systems is defined in section 1 of the Danmarks Nationalbank Act, which states that the objective of Danmarks Nationalbank is to "maintain a safe and secure currency system in Denmark, and to facilitate and regulate the traffic in money and the extension of credit". Danmarks Nationalbank's responsibility for oversight of payment systems was also enshrined in the Danish Securities Trading Act in 2006.<sup>2</sup> The framework for oversight is described in more detail in Danmarks Nationalbank's oversight policy.<sup>3</sup>

Danmarks Nationalbank collaborates with the DFSA on the oversight of VP, cf. the Memorandum of Understanding concluded between the two authorities.<sup>4</sup> This collaboration has been structured and coordinated in such a way that the overall burden to VP from oversight and supervision is as limited as possible. When performing large and

important tasks, Danmarks Nationalbank and the DFSA will, if the circumstances are appropriate, work together to solve the tasks. An example is this assessment of VP.

The assessment of VP is based on international standards for oversight. The oversight standards are, generally, not identical to the statutory requirements to be complied with by VP. Hence this assessment of VP reflects VP's degree of observance of the oversight standards only. The DFSA performs separate supervision of VP's compliance with the statutory requirements. Such supervision includes, among other things, inspections conducted by the DFSA.

## 1.3 THE CPMI-IOSCO PRINCIPLES

The assessment of VP is based on international standards for oversight.<sup>5</sup>

In April 2012, the Bank for International Settlements, BIS, and the International Organization of Securities Commissions, IOSCO, published the report Principles for Financial Market Infrastructures, listing 24 principles for financial market infrastructures, FMIs. These principles are known as the CPMI-IOSCO principles, the Committee on Payment and Market Infrastructures, CPMI, being the BIS committee that contributed to formulating the principles. Members of the CPMI include representatives of a large number of central banks such as the ECB, the Federal Reserve and the Bank of England.

The CPMI-IOSCO principles include requirements for the general organisation of FMIs, including a well-founded legal basis, a clear and transparent organisational and governance structure and a sound risk-management framework. Furthermore, the principles stipulate requirements for the management of all potential risks associated with clearing and settlement of financial transactions. A number of requirements are aimed at addressing efficiency aspects, including fair and open access, practicality and cost-efficiency for

---

2 Under section 86(2) of the Act, Danmarks Nationalbank has a duty to oversee systemically important payment systems. The VP settlement system is not a payment system in the sense of the Act, but the explanatory notes also acknowledge Danmarks Nationalbank's oversight of other systems than payment systems, including securities settlement systems such as the VP settlement system.

3 Danmarks Nationalbank's oversight policy ([link](#)).

4 Memorandum of Understanding between Danmarks Nationalbank and the Danish Financial Supervisory Authority ([link](#)).

---

5 In 1998, 2004, 2007 ([link](#)) and 2012 ([link](#)), Danmarks Nationalbank assessed VP in relation to the international standards for central securities depositories and securities settlement systems applying at the time. The Danish Financial Supervisory Authority also took part in the 2005 assessment, while the 2007 assessment report was published by the IMF on the basis of responses from the Danish Financial Supervisory Authority and Danmarks Nationalbank.

## CPMI-IOSCO Principles

Box 1

### General organisation

- Principle 1 – Legal basis
- Principle 2 – Governance
- Principle 3 – Framework for the comprehensive management of risks

### Credit and liquidity risk management

- Principle 4 – Credit risk
- Principle 5 – Collateral
- Principle 6 – Margin
- Principle 7 – Liquidity risk

### Settlement

- Principle 8 – Settlement finality
- Principle 9 – Money settlements
- Principle 10 – Physical deliveries

### Central securities depositories and exchange-of-value settlement systems

- Principle 11 – Central securities depositories
- Principle 12 – Exchange-of-value settlement systems

### Default management

- Principle 13 – Participant-default rules and procedures
- Principle 14 – Segregation and portability

### General business risk management

- Principle 15 – General business risk
- Principle 16 – Custody and investment risks

### Operational risk management

- Principle 17 – Operational risk

### Access

- Principle 18 – Access and participation requirements
- Principle 19 – Tiered participation arrangements
- Principle 20 – FMI links

### Efficiency

- Principle 21 – Efficiency and effectiveness
- Principle 22 – Communication procedures and standards

### Transparency

- Principle 23 – Disclosure of rules, key procedures, and market data
- Principle 24 – Disclosure of market data by trade repositories

all relevant parties. Finally, the principles include transparency requirements.

Box 1 presents an overview of the 24 principles.

Following the publication of the principles, CPMI-IOSCO has issued guidelines elaborating on how specific requirements of the principles should be observed. In October 2014, CPMI-IOSCO published its guidance for the development of recovery plans for FMIs and most recently, in November 2015, a consultative report on draft guidance on cyber resilience for FMIs was released. The latter report also focuses on ways to reduce the risk that the effects of cyberattacks spread due to interlinkages and interdependencies between infrastructure participants. The recent guidelines should be incorporated into the measures taken to observe the relevant CPMI-IOSCO principles, on an ongoing basis.

## 1.4 DELINEATION AND METHOD

The assessment of VP against the CPMI-IOSCO principles performed by the DFSA and Danmarks Nationalbank comprises the elements of VP Securities A/S that are of significance to VP's core tasks in relation to safekeeping and settlement of

securities. VP's other business areas and ancillary businesses are included in the assessment to the extent that they are deemed to have an impact on operations, security and efficiency in relation to VP's core tasks.

The assessment takes into account that special Danish circumstances and system-specific conditions may apply. This practice is in accordance with CPMI-IOSCO's guidance on the principles, which states that the authorities' application of the principles may vary depending on the country and the system.<sup>6</sup> For example, a risk may have been addressed in another satisfactory manner than that envisaged in the principles.

The assessment is based on a number of sources. The primary source is VP's self-assessment<sup>7</sup>, which has, inter alia, been prepared with a view to supporting the assessment by the DFSA

<sup>6</sup> Cf. Responsibility D in Principles for Market Infrastructures, CPMI-IOSCO, April 2012.

<sup>7</sup> VP has filled in a questionnaire (self-assessment) with some 300 questions relating to how VP observes the specific requirements of the CPMI-IOSCO principles. The questions answered by VP can be found in the report Principles for market infrastructures: Disclosure framework and assessment methodology, December 2012 ([link](#)). A general presentation of VP's answers can be found in VP's Disclosure Framework ([link](#)).

and Danmarks Nationalbank. The self-assessment contains VP's answers to an extensive number of questions related to VP's compliance with the principles. Furthermore, VP has provided rules and regulations, organisational plans, procedures, descriptions of control and security measures, etc. as documentation for its answers. Finally, VP, the DFSA and Danmarks Nationalbank have discussed VP's observance of the principles on several occasions.

## 2.

# ASSESSMENT OF OBSERVANCE

The rating of VP in relation to the individual principles can be found in Table 1. The rating scale consists of five categories: observed, broadly observed, partly observed, not observed and not applicable. In the assessment of each principle, the following guidelines have been applied:

- *Observed* is used when any identified gaps and shortcomings are not issues of concern and are minor, manageable, and of a nature that the FMI could consider taking up in the normal course of its business.
- *Broadly observed* is used when one or more issues of concern have been identified that the FMI is encouraged to address and follow up to better manage risks or improve operations. The FMI should pursue such improvements in a defined timeline.
- *Partly observed* is used when the assessment has identified one or more issues of concern that could become serious if not addressed in a timely manner. The FMI should accord a high priority to address these issues.
- *Not observed* is used when the assessment has identified one or more serious issues of concern that warrant immediate action. Therefore, the FMI must accord the highest priority to address these issues in a timely manner.
- *Not applicable* is used when the principle does not pertain to the type of FMI being assessed because of the particular legal, institutional, structural, or other characteristics of the FMI.

VP observes most of the principles without material issues of concern.

In relation to four principles, the DFSA and Danmarks Nationalbank have identified one or more issues of concern, cf. Table 1. These issues should be addressed within a defined timeline. For each principle, specific recommendations have been made regarding the measures to be taken in order to obtain an improved assessment. The recommendations are described in section 3 and a plan for observance of the recommendations is presented in section 4.

Danish legislation regarding central securities depositories has been amended as a result of the Regulation of the European Parliament and of the Council on improving securities settlement in the European Union and on central securities depositories, etc. (hereinafter the CSDR).<sup>8</sup> This means that in future VP must meet new legislative requirements in order to be licensed to operate activities as a central securities depository and securities settlement system, cf. the CSDR. Since the legislative requirements of the CSDR and the issues of concern identified in this report overlap, VP will simultaneously have observed the principles and complied with the legislation once these issues have been addressed. VP is expected to meet the legislative requirements during the 2nd half of 2016.

---

<sup>8</sup> Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012, text with EEA relevance ([link](#)).

**Rating of VP's observance of the CPMI-IOSCO principles**

Table 1

Category	Principles
Observed	1, 7, 8, 9, 11, 12, 16, 17, 18, 19, 20, 21, 22, 23
Broadly observed	2, 3, 13, 15
Partly observed	-
Not observed	-
Not applicable	4, 5, 6, 10, 14, 24

# 3.

## ASSESSMENT

The assessment by the DFSA and Danmarks Nationalbank of VP's observance of the principles, including recommendations and comments regarding improvements, is presented below. The descriptions are grouped according to main categories so that e.g. Principles 1-3, which relate to VP's legal basis, governance structure and risk management framework, are grouped under the heading of "general organisation". The main categories can also be found in Box 1 in section 1.

### 3.1 GENERAL ORGANISATION

VP's organisation has been assessed in relation to Principles 1-3, which concern VP's legal basis, governance structure and comprehensive risk management framework. VP observes Principle 1, while recommendations have been made regarding Principles 2 and 3.

Principle 1 – Legal basis; observed  
Principle 2 – Governance; broadly observed  
Principle 3 – Framework for the comprehensive management of risks; broadly observed

#### Explanation

VP has a well-founded, clear and transparent legal framework that can be enforced in all relevant

jurisdictions. All significant activities are regulated by Danish law with the exception of the contractual basis for T2S, which is subject to German law.<sup>9</sup>

VP is organised as a public limited company and is thus accountable to its owners. The group of owners to a large extent also represents the participants. The division of responsibilities between the Board and Management of VP is specified in internal guidelines. The Board determines the level of risk that is acceptable to VP as a business. Responsibility for managing risk is based on the three lines of defence – 1st, 2nd and 3rd, i.e. operative units, compliance functions and system audit, respectively. Policies, procedures, systems and controls have been implemented in order to manage all relevant risk types, including legal, liquidity and operational risk.

#### Recommendation re Principle 2

The composition of VP's Board should be adjusted so as to include independent Board members in future. At present, VP's Board is made up exclusively of representatives of VP's owner group and members elected by the employees. The requirement for independent Board members is also part of the legal framework for central securities depositories, cf. the CSDR. VP has initiated work to comply with the new regulations governing central securities depositories.

<sup>9</sup> TARGET2-Securities, T2S, is a trans-European securities clearing and settlement system established by the European Central Bank. VP has concluded an agreement to join T2S for settlement in euro from the 2nd half of 2016 and in kroner from the 2nd half of 2018.

### Recommendation re Principle 3 (1)

VP should prepare a recovery plan and work with relevant authorities to prepare a resolution plan. These plans are to ensure that VP can continue its core tasks, even in the event of business-related difficulties. Such plans are essential to observance of the CPMI-IOSCO principles on the comprehensive risk management framework. They are also a precondition for authorisation under the provisions of the CSDR and hence an important element of VP's work to meet the new legislative requirements.

### Recommendation re Principle 3 (2)

VP should work with participants, authorities and other players to strengthen the effort to identify and manage risks arising from interdependencies across systems. VP has a robust framework for managing its own risks, and this competence and experience is important in relation to identifying, managing and monitoring risks that could potentially spread across systems via the financial infrastructure.

## 3.2 CREDIT AND LIQUIDITY RISK MANAGEMENT

VP does not extend credit to its participants. Hence it is not relevant to assess VP's observance of Principles 4-6, which relate to credit risk, collateral and margin, respectively. Principle 7 regarding liquidity risk is relevant in that VP settles in net settlement cycles and as such liquidity risk can arise among participants. VP observes Principle 7.

Principle 4 – Credit risk; not applicable  
Principle 5 – Collateral; not applicable  
Principle 6 – Margins; not applicable  
Principle 7 – Liquidity risk; observed

### Explanation

VP offers both gross and net settlement of securities in its settlement system.<sup>10</sup> The use of multi-lateral netting<sup>11</sup> means that liquidity risk between participants could potentially arise. Consequently, VP offers a number of tools enabling participants to minimise and manage their mutual liquidity risk. These include the possibility of real-time monitoring of both positions and liquidity for the settlement cycles, flexible pledging of collateral via the automatic collateralisation arrangement (auto-collateralisation)<sup>12</sup> and the option of gross settlement of e.g. large, time-critical transactions.

VP regularly performs stress tests of the impact on participants' liquidity requirements from removing large, critical participants from the settlement.

## 3.3 SETTLEMENT

Principles 8 and 9 relating to settlement finality and money settlements are relevant to VP, whereas principle 10 relating to physical deliveries is not relevant as all VP assets are dematerialised and therefore exist as electronic records only. VP observes Principles 8 and 9.

Principle 8 – Settlement finality; observed  
Principle 9 – Money settlements; observed  
Principle 10 – Physical deliveries; not applicable

### Explanation

VP has clearly defined finality rules. The time after which a transaction can no longer be revoked unilaterally by one of the parties is clearly defined in VP's rules, which are based on the provisions of the Danish Securities Trading Act. The finality rules comprise both net settlement in VP's settlement cycles and gross settlement. VP supports intraday, same day and real-time settlement.

<sup>10</sup> For a more detailed description of VP settlement, see VP's disclosure framework ([link](#)).

<sup>11</sup> In connection with multilateral netting, one overall net position for each participant in relation to the other system participants is calculated on the basis of all transactions in a settlement cycle. In VP, multilateral netting takes place with both the cash and securities legs of the transactions.

<sup>12</sup> Automatic collateralisation is a system by which VP participants may pledge securities deposited in custody accounts at VP as collateral for e.g. settlement of securities transactions in kroner.

Both gross and net settlement of securities transactions in Danish kroner in VP take place in central bank money via accounts at Danmarks Nationalbank, while settlement of transactions in euro takes place via accounts at the European Central Bank, ECB. Securities settlement in VP takes place on a “Delivery Versus Payment”, DVP, basis, which means that money and securities are exchanged simultaneously. The settlement agreements between VP and Danmarks Nationalbank clearly specify how liquidity is reserved for settlement.

### 3.4 CENTRAL SECURITIES DEPOSITORIES AND EXCHANGE-OF-VALUE SETTLEMENT SYSTEMS

Principles 11 and 12 contain requirements regarding issuance, safekeeping and exchange of securities against money for participants in securities settlement systems. VP observes Principles 11 and 12.

Principle 11 – Central securities depositories; observed  
 Principle 12 – Exchange-of-value settlement systems; observed

#### Explanation

All securities at VP are issued in a dematerialised form. Issuance takes place from separate accounts, i.e. vis-à-vis the issuer. Issuance is debited to VP’s ledger and credited to the issuer’s account at VP. All subsequent entries are also based on the double-entry principle. Reconciliation is performed regularly during the day via an automated IT process for end-to-end audit.

VP’s registration system allows registration of securities on either end-investor or omnibus accounts. As regards securities for which issuer responsibility is placed in another registration system (i.e. another central securities depository), VP only keeps a ledger of the subset transferred for registration at VP. In connection with transfers to other registration systems, continuous adjustment and daily reconciliation of ledgers take place.

The custody risk is observed via the legal protection (property law) of investors’ securities. In addition, strict liability applies, cf. sections 80 and 81 of the Danish Securities Trading Act. Strict lia-

bility is supported by the participant guarantees, cf. section 82 of the Danish Securities Trading Act. Furthermore, VP has taken out insurance covering registration errors, clearing and settlement activities and VP’s other business areas.

All settlement of securities transactions at VP takes place as either DVP, i.e. simultaneous exchange of securities for money, or FOP (Free Of Payment). Net settlement takes place via BIS DVP model 3, i.e. with multilateral netting of both the cash and securities legs of the transactions. The net effect of all approved transactions in each settlement cycle is entered to the relevant securities accounts (registration) against simultaneous entry of the transaction sums to the relevant cash accounts. If VP’s checks for adequate cover show that the seller does not have an adequate supply of securities or that the buyer’s aggregate payments exceed the disposable amount in the buyer’s settlement account, the reported purchases will not be executed. However, VP’s clearing rules include “elimination rules” that entitle VP to execute the transactions for which cover can be found. The remaining transactions are postponed until the subsequent settlement cycle.

### 3.5 DEFAULT MANAGEMENT

Principle 13 relates to management of a participant’s default, resolution or operational failure, while Principle 14 on segregation and portability is relevant only for central counterparties, CCPs, and hence not for VP as a central securities depository and settlement system. One recommendation has been made regarding VP’s observance of Principle 13.

Principle 13 – Participant-default rules and procedures; broadly observed  
 Principle 14 – Segregation and portability; not applicable

#### Explanation

VP has clear internal procedures for handling a participant’s default, resolution regime or operational failure. For participants subject to default or a resolution regime, the procedures have been formalised as routines that also include procedures for communication with authorities and participants not subject to default.

A participant's operational failure is handled by a VP task force made up of a wide selection of VP's own experts. The competences of the task force cover relevant technical and business related aspects. All discretionary decisions are made by the Management of VP. In the interests of security and safety, VP may be entitled and under an obligation to disconnect a participant or a data centre. In that case, the participant or data centre will, if possible, be notified beforehand.

Participants and data centres have access to relevant information in e.g. participation agreements, VP's system guidelines and rules and regulations. In addition, VP has agreed contingency procedures with the participants, and the participants can conclude agreements with VP for extended backup solutions. Communication between VP and participants takes place in accordance with VP's guidelines, rules and regulations and related documents.

### Recommendation re Principle 13

VP should publicly disclose overall guidelines describing the likely sequence of actions in VP in the event that one or several participants or a data centre experiences a lengthy operational failure and is therefore unable to settle in a timely manner. The guidelines should be anchored in VP's internal procedures and should, inter alia, reflect the situations in which participants may expect discretionary action. The guidelines should be accessible via the Customer center at VP's website. Furthermore, VP should regularly test its procedures for handling a participant's default, resolution or operational failure. Participants, authorities and any other relevant parties should take part in such testing.

### 3.6 GENERAL BUSINESS AND OPERATIONAL RISK MANAGEMENT

Principle 15 relates to general business risk, i.e. risk that may jeopardise VP's ability to continue its core tasks. Principle 16 relates to VP's risk on investment and deposit of VP's own funds. One recommendation has been made regarding VP's observance of Principle 15, while VP observes Principle 16.

Principle 15 – General business risk; broadly observed  
Principle 16 – Custody and investment risks; observed

### Explanation

VP has identified and assessed a number of risks that could lead to losses as a result of errors in day-to-day operations. These assessments are part of the work regarding VP's central risk register. Assessment of the consequences of large economic or financial one-off events (shocks) or changed transaction patterns among VP's participants are handled as part of VP's strategy work.

VP's strategy for investment of own funds is based on investment instructions issued by the Board of VP. VP's investments are limited to bonds from Danish SIFIs and government bonds. Liquid funds are deposited in accounts at SIFIs and must be available on demand.

### Recommendation re Principle 15

VP should prepare a recovery plan and should also work with relevant authorities to prepare a resolution plan. These plans are to ensure that VP's core tasks can continue in the event of business-related difficulties. The starting point should be an analysis of critical scenarios that might jeopardise VP's ability to continue its core functions, i.e. safekeeping and settlement of securities. Such plans are essential in relation to observing the principles and also a precondition for authorisation under the provisions of the CSDR. VP has initiated work to address the requirements imposed by the new legislation on central securities depositories, including in relation to preparation of recovery plans.

### 3.7 OPERATIONAL RISK

Principle 17 relates to VP's handling of operational risk. VP observes Principle 17 with remarks.

Principle 17 – Operational risk; observed

### Explanation

VP has set up a central risk register in which sources of operational risk are identified and assessed. VP has policies, procedures, systems and controls aimed at countering and managing operational risk.

VP has prepared a policy and a strategy for information security, including for cybersecurity.

VP has formalised procedures for incident and problem management and applies procedures

based on international standards for change management and project management.

Capacity management at VP is flexible and scalable. In rare cases where the maximum capacity has been fully utilised, system capacity may be expanded for a limited period.

VP has clear rules for personnel safety and physical security. All activities in VP's systems are logged so that it is possible to trace access to the systems in the event of fraud. Physical security measures include the use of electronic access cards, logging of access and video surveillance in selected parts of VP's premises.

VP has a contingency plan aimed at timely restoration of VP's systems in the event of extensive operational disruptions. It is possible to restore operations at a secondary site within two hours. This has been demonstrated in the contingency tests performed by VP at least once a year. The contingency plans are subject to annual review.

VP has robust and satisfactory agreements on outsourcing with its service providers, including the agreements with IBM.

### Remarks re Principle 17

As part of the work to identify and assess risks arising from interdependencies, cf. the recommendation re Principle 3, VP should consider working with relevant parties to establish sector-wide tests of scenarios that could potentially lead to systemic risk across the financial infrastructure. Part of this work also includes identifying participants that are critical to the settlement of payments and securities in Denmark.

### 3.8 ACCESS

Principles 18-20 relate to access to and participation in VP's systems. The principles concern access criteria, tiered participation and links between VP and other systems, respectively, including links to central securities depositories in other countries. VP observes Principles 18, 19 and 20.

Principle 18 – Access and participation requirements; observed

Principle 19 – Tiered participation arrangements; observed

Principle 20 – FMI links; observed

### Explanation

In principle any company, irrespective of where it is based, has access to issuance of securities at VP. Issuance will take place via an issuing agent who has concluded an agreement with VP to undertake this function. Banks and investment firms licensed in an EU member state or EEA country have access to participation in VP's clearing and settlement system. Participants outside the EU and the EEA can also become participants, provided that they are financial institutions subject to supervision in their home countries. In that case, VP will require an independent legal opinion. Participants who wish to undertake custody and account controller functions in the VP system must conclude an account controller agreement. The right to join VP as an account controller follows from section 62 of the Danish Securities Trading Act.

All rules on access to VP's services are publicly accessible at VP's website. Technical requirements for connection are stated clearly in agreements, guidelines and rules and regulations. A participant who does not meet the technical requirements or grossly disregards the rules for participation may be excluded from participation in VP.

In general, there is a high degree of direct participation in VP. The vast majority of securities are held directly in end-investor accounts. Registration in omnibus accounts is possible, but use of this facility is typically limited to non-resident VP participants. Cash settlement in VP takes place via "primary cash providers" who hold accounts at Danmarks Nationalbank and/or the ECB, and settlement takes place in central bank money. The rules for cash settlement are clearly defined in the participation agreements between VP and direct and indirect participants, respectively. VP offers its direct participants access to tools that allow them to control their exposures to indirect participants. VP collects data for tiered participation and has recently initiated a project whereby VP, on the basis of data, prepares semi-annual assessments of the development in and risks associated with tiered participation in VP.

VP has a number of links to central securities depositories, CSDs, in other countries. A distinction is made between links where VP is an investor CSD, i.e. VP's participants can buy and sell securities issued by the linked CSD, and links where VP is the issuer CSD, i.e. securities issued in VP are

traded. VP has concluded link agreements will all linked CSDs. These agreements specify the legal and operational conditions applying to transfer of securities via the links. VP requires independent legal opinions on the legal frameworks for the link agreements. VP also requires that the CSDs linked with VP are subject to financial supervision in their home countries. When securities are transferred via links, ongoing adjustment and daily reconciliation of VP's ledger take place so that it reflects the total volume of securities registered at VP.

As regards CCP links, the CCPs participating in settlement at VP are subject to the same rules and regulations as other account controllers participating in VP's clearing and settlement. There are no financial dependencies between VP and the CCPs participating in the settlement.

### 3.9 EFFICIENCY

Principle 21 relates to VP's efficiency and effectiveness, while principle 22 is about communication standards. VP observes Principles 21 and 22.

Principle 21 – Efficiency and effectiveness; observed  
Principle 22 – Communication procedures and standards; observed

#### Explanation

The cost-effectiveness of VP's systems is regularly assessed via user involvement in various customer forums and on the Board of VP, where the participants (as owners) are represented. VP conducts regular surveys of customer satisfaction, including with prices and efficiency. VP compares its prices with those of other service providers. Furthermore, VP's system has been assessed by external consultants.

VP has focus on the capacity of its systems and has recently expanded its capacity, partly in response to market changes.

The VP system is able to communicate via a number of international communication standards. These include the ISO 20022 communication format, which is the international communication standard for securities transactions. VP also supports ISO 15022, the predecessor of ISO 20022, ISO 6166, relating to identification of securities, ISINs, and counterparties, BICs, and the ISO 10962 format for classification of financial instruments, CFI.

### 3.10 TRANSPARENCY

Principle 23 relates to disclosure of information, while principle 24 is relevant for trade repositories only. VP observes Principle 23 with remarks.

Principle 23 – Disclosure of rules, key procedures, and market data; observed  
Principle 24 – Disclosure of market data by trade repositories; not applicable

#### Explanation

VP's participants have access to clear and adequate descriptions of rules and procedures. The rules are reflected in the participation agreements. Furthermore, participants have online access to the business-related and technical guidelines, VP's rules and regulations, guidelines for the use of SWIFT, etc. All rules, regulations and procedures are available in Danish and English.

VP regularly involves its participants in the work to modify its systems, e.g. via technical user committees. Participants are notified of changes at least three months before they take effect.

VP publishes information about its finances and resilience to losses in its annual reports. Data for the number and value of transactions and the value of issuance is regularly published at VP's website. VP publishes a disclosure framework where VP describes its own observance of the CPMI-IOSCO principles.

#### Remarks re Principle 23

It is important that there is sufficient openness about VP's recovery and resolution plans so that participants are aware of their roles in extreme situations where such plans are activated. VP should consider how relevant parts of VP's business continuity plans are best shared with participants. One option could be to involve participants in the testing of the plans.

# 4.

## RECOMMENDATIONS AND FOLLOW-UP PLAN

Table 2 provides a list of the recommendations made by the DFSA and Danmarks Nationalbank in relation to the principles where deficiencies have been identified. The table includes a plan for

when VP should observe the recommendations. The recommendations will be followed up at regular meetings between VP and Danmarks Nationalbank and between VP and the DFSA.

Recommendations made by the DFSA and Danmarks Nationalbank to VP		
Principle	Recommendation	Follow-up
2	The composition of VP's Board should be adjusted so as to include independent Board members in future. At present, VP's Board is made up exclusively of representatives of VP's owner group and members elected by the employees.	This recommendation should be observed before VP must apply for authorisation to carry out activities as a central securities depository and securities settlement system, cf. the CSDR. The application process is expected to start in the 2nd half of 2016.
3, 15	VP should prepare a recovery plan and should also work with relevant authorities to prepare a resolution plan. The starting point should be an analysis of critical scenarios that might jeopardise VP's ability to continue its core tasks. This recommendation is relevant to VP's observance of both Principle 3 and Principle 15.	This recommendation should be observed before VP must apply for authorisation to carry out activities as a central securities depository and securities settlement system, cf. the CSDR. The application process is expected to start in the 2nd half of 2016.
3	VP should work with participants, authorities and other players to strengthen the effort to identify and manage risks arising from interdependencies across systems. VP has a robust framework for managing its own risks, and this competence and experience is important in relation to identifying, managing and monitoring risks that could potentially spread across systems via the financial infrastructure.	A formal sector cooperative arrangement should be established before the end of 2016.  VP should contribute to the establishment of and participate in this cooperative arrangement.
13	VP should publicly disclose overall guidelines describing the likely sequence of actions in VP in the event that one or several participants or a data centre experiences a lengthy operational failure and is therefore unable to settle in a timely manner. The guidelines should be anchored in VP's internal procedures and should, inter alia, reflect the situations in which participants may expect discretionary action. The guidelines should be accessible for participants at VP's website. Furthermore, VP should regularly test its procedures for handling a participant's operational failure. Participants, authorities and any other relevant parties should take part in such tests.	Guidelines for participants should be prepared and publicly disclose before the end of 2016.  Testing of procedures for the handling of a participant's operational failure should take place at least once a year, starting in 2016.