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# The pickup and delivery problem with time windows, multiple stacks, and handling operations

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**Abstract:** In this paper, we introduce, model and solve the pickup and delivery problem with time windows, multiple stacks, and handling operations (PDPTWMS-H). In the PDPTWMS-H, a fleet of vehicles based at a depot is used to complete a set of requests which consist of transporting items from a pickup location to a delivery location. The vehicles have multiple compartments operated using last-in-first-out (LIFO) loading which requires the vehicle to be rear-loaded and items can only be unloaded if they are closest to the back door. In the PDPTWMS-H, additional handling operations, referred to as rehandling, are allowed and an additional handling time might be incurred when rehandling items (by unloading and reloading items). The problem consists of determining the number of vehicles and the vehicle routes needed to complete the set of requests at minimal cost while respecting the possible handling operations. We model the PDPTWMS-H with a set-partitioning formulation and resort to branch-price-and-cut (BPC) for its solution. To solve the pricing problem, we derive a labeling algorithm that is able to cope with the different rehandling possibilities. The labeling algorithm keeps track about the information of on-board items such that symmetries with respect to both stacks and item positions are reduced. Extensive tests are performed on benchmark instances to assess the performance of the proposed BPC methodology and to provide insights on the impact of the rehandling flexibility on solution cost and time.

**Keywords:** Vehicle routing with pickup and delivery, loading constraints, last-in-first-out loading, multiple stacks, column generation, branch-price-and-cut

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# 1 Introduction

Pickup and delivery problems (PDPs) are an important family of vehicle routing problems (VRPs) in which customer requests consist of transporting items from a pickup location to a delivery location. A fleet of homogeneous capacitated vehicles based at a depot is available to serve the requests. The problem consists of determining the number of vehicles and the vehicle routes to complete the customer requests at minimal cost. Many variants of PDPs have been studied in the literature (see the surveys of Berbeglia et al. 2007, Parragh et al. 2008a,b, Battarra et al. 2014). One of the most important variants is the well-known pickup and delivery problem with time windows (PDPTW) (Dumas et al. 1991, Baldacci et al. 2011, Gschwind et al. 2018). In the PDPTW, customers have a time window during which the service (pickup or delivery of items) has to start.

An important subclass of PDPs includes loading constraints (Battarra et al. 2014, Pollaris et al. 2015). Two well-studied PDPs with loading constraints are the pickup and delivery problem with last-in-first-out (LIFO) loading (Carrabs et al. 2007b,a, Cordeau et al. 2010, Benavent et al. 2015, Cherkesly et al. 2015b,a, Alyasiry et al. 2019) and the pickup and delivery problem with multiple stacks (Petersen et al. 2010, Côté et al. 2012, Alba Martínez et al. 2013, Batista-Galván et al. 2013, Cherkesly et al. 2016, Pereira and Urrutia 2018). LIFO loading requires the vehicle to be rear-loaded and items can only be unloaded if they are closest to the back door. In multiple stacks problems, the vehicles have multiple compartments which are operated using LIFO loading. Recently, some authors have proposed to relax LIFO loading by allowing additional handling operations, called rehandling. One possibility to penalize handling operations is by imposing handling costs (Battarra et al. 2010, Hornstra et al. 2018, Veenstra et al. 2017b,c). Another way, which is more appropriate for variants with time windows, is by imposing handling times (Veenstra et al. 2017a). In the latter case, an additional handling time might be incurred when rehandling items by unloading and reloading items closer to the back. Thereby, rehandling is usually allowed only when delivering items because pickup customers might not have the space to allow for rehandling operations. In the presence of loading constraints, Côté et al. (2017) have shown that solving the problem by considering simultaneously loading and routing is important and yields better results than when considering both separately.

In this paper, we introduce and study the pickup and delivery problem with time windows, multiple stacks, and handling operations (PDPTWMS-H) which combines multiple stacks with the possibility of intra-stack and inter-stack rehandling. This additional degree of freedom makes the problem very challenging. We propose six different handling policies for the PDPTWMS-H, i.e., six variants of the PDPTWMS-H (see Table 1 for a summary), which are categorized according to the feasible unloading operations (compulsory, preventive intra-stack, and preventive inter-stack) and reloading operations (intra-stack and inter-stack). These policies are proposed in an incremental fashion, with almost no flexibility for the first policy to full flexibility for the last policy. When delivering an item, if *compulsory* operations are allowed, items that are in the same stack between the delivered item and the back door can be unloaded and reloaded. If *preventive intra-stack* operations are allowed, in addition to compulsory rehandling, all other items that are in the same stack as the delivered item can be unloaded and reloaded. If *preventive inter-stack* operations are allowed, all items, independently of their stack, can be unloaded and reloaded. When reloading an item, if only *intra-stack reloading* operations are allowed, i.e., *inter-stack reloading* operations are not allowed, each unloaded item must be reloaded in its previous stack. On the contrary, if inter-stack reloading operations are allowed, then each unloaded item can be reloaded in any stack.

Figures 1–6 illustrate an example of a route and a feasible vehicle configuration according to policies 1–6, respectively. In all figures, the depot is denoted by 0, pickup nodes by $i^+$ and their corresponding delivery nodes by $i^-$. In addition, lines between items in a stack of a vehicle imply that there is a strict ordering of the items, i.e., that one item is on top of another one. An item is said to be on top of another one if it is in the same stack and closer to the back door, i.e., if it has been (re)loaded later. If there is no line between items, there is no strict ordering of the items and we say that the two items are at the same level. It means that the last time the items were unloaded, they were reloaded simultaneously in the same stack and implicitly represents all the different orderings of these items. In

**Table 1: Categorization of the proposed handling policies**

| | Unloading operations | | | Reloading operations | |
|---|---|---|---|---|---|
| Policy | Compulsory | Preventive intra-stack | Preventive inter-stack | Intra-stack | Inter-stack |
| 1 | • | | | • | |
| 2 | | • | | • | |
| 3 | | | • | • | |
| 4 | • | | | | • |
| 5 | | • | | | • |
| 6 | | | • | | • |

the examples, note that the vehicle route is the same, but not the vehicle configuration. The purpose here is to illustrate how the vehicle configuration varies according to the different policies and not to illustrate its impact on the possible route extensions. In each figure, upon delivering item 2, two items need to be unloaded (i.e., items 3 and 4). Depending on the handling policy, the set of unloaded and reloaded items as well a where they are reloaded varies. For policy 1 (see Figure 1), items 3 and 4 have to be unloaded and reloaded in the same stack. No other items are allowed to be rehandled. For policy 2 (see Figure 2), items 3 and 4 have to be unloaded. Furthermore, item 1 can also be unloaded. All unloaded items need to be reloaded in the same stack. For policy 3 (see Figure 3), items 3 and 4 have to be unloaded while all other items can also be unloaded. Each unloaded item must be reloaded in its initial stack. For policy 4 (see Figure 4), items 3 and 4 have to be unloaded and can be reloaded in any stack. No other items can be rehandled. For policy 5 (see Figure 5), items 3 and 4 have to be unloaded, item 1 can also be unloaded, and each of the unloaded items can be reloaded in any stack. Finally, for policy 6 (see Figure 6), items 3 and 4 have to be unloaded, all other items can also be unloaded, and each of the unloaded items can be reloaded in any stack.

The contributions of this paper are as follows. We introduce a new variant of the PDPTW, coined the PDPTWMS-H, and investigate six different policies for the rehandling of items resulting in six variants of the problem. We derive optimal branch-price-and-cut (BPC) algorithms to solve the problem and effective labeling algorithms (one variant for each of the handling policies) for the solution of the column-generation pricing problems. In particular, we model information about on-board items in a way that symmetry is reduced and stronger dominance rules can be applied. Furthermore, we perform a theoretical analysis on the number of label extensions for each handling policy. Finally, extensive computational experiments are conducted to study the impact of the handling time and handling flexibility (unloading and reloading operations) on the solution cost and total computational time.

The remainder of this paper is structured as follows. Section 2 defines the PDPTWMS-H and presents the set-partitioning formulation. The BPC algorithms and the *ad hoc* labeling algorithms for the different policies are described in Section 3. Our computational results are presented in Section 4 followed by conclusions in Section 5.

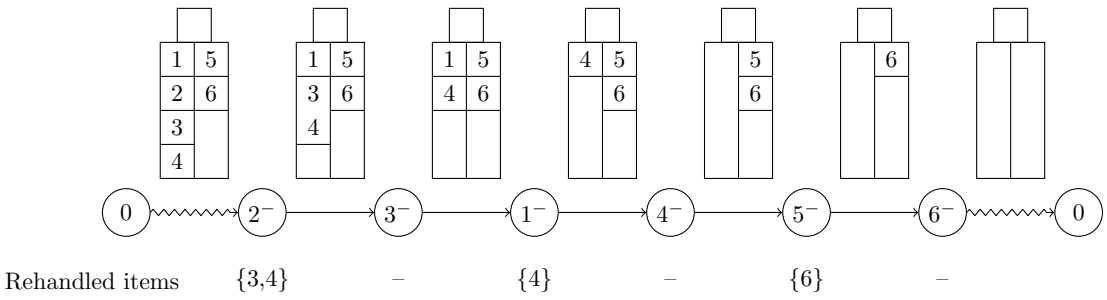



**Figure 1: Route and vehicle configuration satisfying policy 1 (compulsory unloading and intra-stack reloading)**

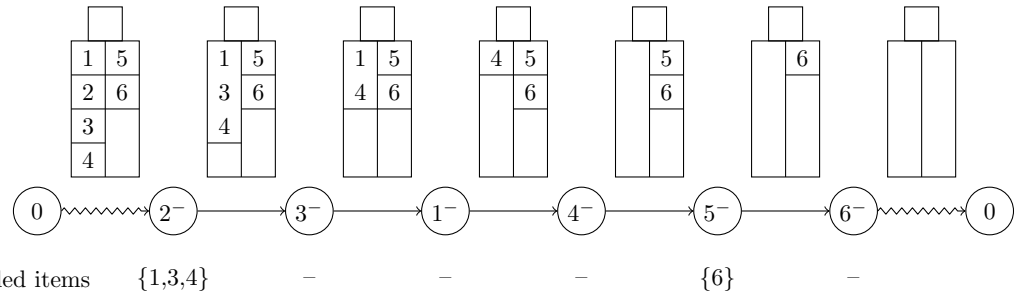



**Figure 2: Route and vehicle configuration satisfying policy 2 (preventive intra-stack unloading and intra-stack reloading)**

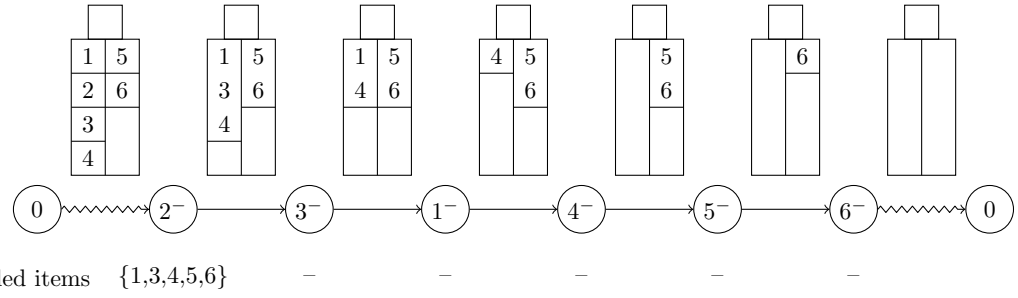



**Figure 3: Route and vehicle configuration satisfying policy 3 (preventive inter-stack unloading and intra-stack reloading)**

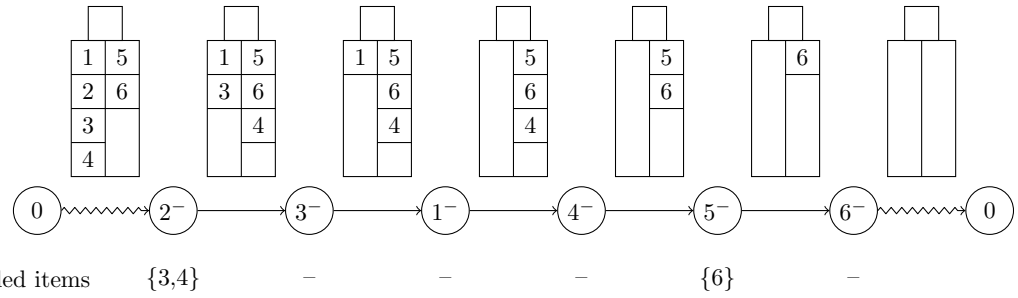



**Figure 4: Route and vehicle configuration satisfying policy 4 (compulsory unloading and inter-stack reloading)**

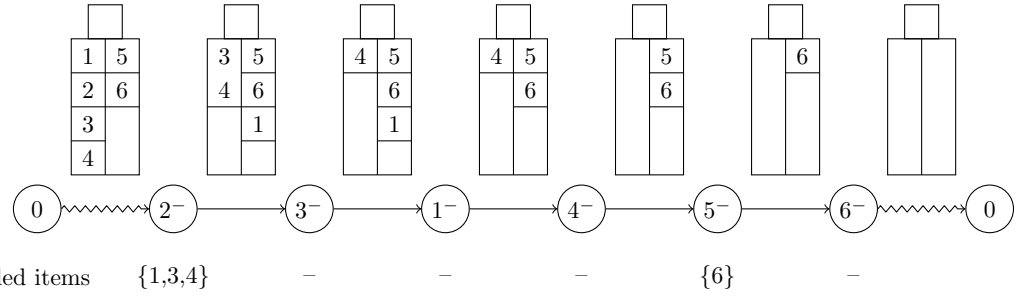



**Figure 5: Route and vehicle configuration satisfying policy 5 (preventive intra-stack unloading and inter-stack reloading)**

# 2 Mathematical formulation

The PDPTWMS-H can be defined on a directed graph $G = (N, A)$, where $N = \{0, 1, ..., n, n + 1, ...., 2n, 2n + 1\}$ is the set of nodes and $A$ is the set of arcs. Nodes 0 and $2n + 1$ represent the origin and the destination depot, respectively. The subsets $P = \{1, ..., n\}$ and $D = \{n + 1, ..., 2n\}$ denote the set of pickup and delivery nodes, respectively. Each request $i$ is associated with a pickup node $i \in P$, also denoted by $i^+$, and a delivery node $n + i \in D$, also denoted by $i^-$. We also refer to $P$ as the set of requests. Each node $i \in N$ is associated with a demand $q_i$, with $q_0 = q_{2n+1} = 0$, $q_i \geq 0, \forall i \in P$, and

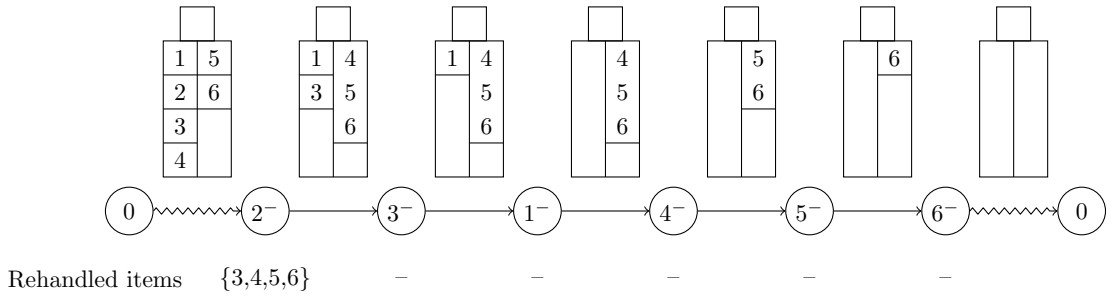



**Figure 6: Route and vehicle configuration satisfying policy 6 (preventive inter-stack unloading and inter-stack reloading)**

$q_i = -q_{i-n}, \forall i \in D$, and a time window $[\underline{w}_i, \overline{w}_i]$, where $\underline{w}_i$ and $\overline{w}_i$ represent the earliest and latest time at which the service can start, respectively. Each arc $(i, j) \in A$ is associated with a travel cost $c_{ij} \geq 0$ and a travel time $t_{ij} \geq 0$ which also comprises the service time $s_i$ at node $i$. The triangle inequality is assumed to be respected for travel costs and travel times. The time required to rehandle one unit of demand is $\delta$, implying that rehandling item $i$ takes $\delta q_i$ units of time. Finally, a fleet of homogeneous vehicles with a set of $S$ stacks, each with a capacity $Q$, is available at the origin depot 0.

Let $\Omega$ denote the set of all feasible routes. Each route $r \in \Omega$ is associated with a cost $c_r$ (fixed vehicle cost and total routing cost). A binary parameter $a_{ir}$ indicates if route $r \in \Omega$ completes request $i \in P$ ($a_{ir} = 1$) by visiting its corresponding pickup node $i^+$ and then its corresponding delivery node $i^-$, or not ($a_{ir} = 0$). Let $y_r$ be a binary variable equal to one if and only if route $r$ is used in the solution. The PDPTWMS-H can then be formulated as

$$\text{minimize} \quad \sum_{r \in \Omega} c_r y_r \tag{1}$$

$$\text{subject to} \quad \sum_{r \in \Omega} a_{ir} y_r = 1, \qquad \forall i \in P, \tag{2}$$

$$y_r \in \{0, 1\}, \qquad \forall r \in \Omega. \tag{3}$$

The objective (1) minimizes the total cost (i.e., vehicle and travel costs). Constraints (2) impose that each request is completed exactly once. Finally, constraints (3) define the variable domain.

# 3 Branch-Price-and-Cut algorithm

BPC is the most successful and leading exact solution methodology for solving many VRPs including PDPs (Costa et al. 2019). A BPC algorithm is a branch-and-bound algorithm in which the lower bounds are computed by column generation and cuts are added dynamically to strengthen the linear relaxations. The starting point of our BPC algorithm is the restricted master program (RMP) which is the linear relaxation of formulation (1)–(3) defined over a subset of routes $\Omega' \subseteq \Omega$. The column-generation algorithm then alternates between the reoptimization of the RMP and the solution of the pricing problem (Section 3.1) which identifies negative reduced-cost variables that are added to the RMP, if any exist. If no negative reduced-cost variable exists, the current linear relaxation is solved to optimality. The corresponding lower bound can be strengthened by adding valid inequalities (Section 3.2) and branching is required to ensure integer solutions (Section 3.3).

## 3.1 Pricing problem

Let $\pi_i$, $i \in P$ be the dual variables corresponding to constraints (2). The pricing problem aims at identifying at least one feasible route $r \in \Omega$ with negative reduced cost or to guarantee that no such route exists. The reduced cost is computed as $\overline{c}_r := c_r - \sum_{i \in P} a_{ir} \pi_i = \sum_{(i,j) \in r} \overline{c}_{ij}$, where

$$\overline{c}_{ij} = \begin{cases} c_{ij} - \pi_i, & \forall i \in P, \\ c_{ij}, & \forall i \in N \backslash P, \end{cases}$$

denotes the reduced cost of arc $(i, j) \in A$. This problem is an elementary shortest path problem with pairing and precedence, capacity constraints, time windows, multiple stacks, and a given handling policy. It can be solved by means of a dynamic-programming labeling algorithm (Irnich and Desaulniers 2005). In a labeling algorithm, partial paths are iteratively created by extending labels starting from the origin depot 0 and ending at the destination depot $2n+1$. A label $E$ stores all necessary information on the resource consumption up to the endpoint of a partial path. The labeling algorithm propagates the labels along the network arcs by resource extension functions (REFs). To avoid enumerating all feasible paths, a dominance criterion is used to eliminate labels that cannot lead to an optimal solution.

### 3.1.1 Unified labeling algorithm

We first describe the main elements (needed resources, REFs, dominance rules) of our unified labeling procedure that is used for all six pricing problem variants (according to the six handling policies). The unified procedure models information about on-board items in a way that symmetry is reduced. Furthermore, it makes use of two sets of items per stack that describe the performed handling operations of a given label extension. This latter representation allows a description of the labeling procedure independent of the chosen handling policy. The concrete definition of these sets according to the feasible handling operations of the different policies is described in Section 3.1.2.

For a given label $E$, representing the partial path $R(E) = (0, i_1, i_2, ..., i_\rho, i_{\eta(E)})$, the following components, inspired from Cherkesly et al. (2016) and Veenstra et al. (2017a), are stored:

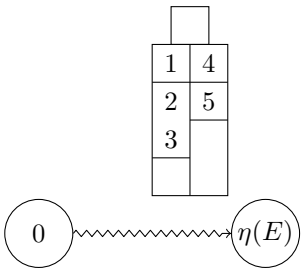
| | |
|---|---|
| $\eta(E)$ | the last visited node of the partial path; |
| $t(E)$ | the start of service at node $\eta(E)$; |
| $c(E)$ | the cumulated reduced cost up to node $\eta(E)$; |
| $U(E)$ | the set of unreachable requests after visiting node $\eta(E)$; a request $i \in P$ is unreachable if it has already been visited on the partial path or if traveling directly from $\eta(E)$ to its pickup node violates its time window; |
| $q^s(E)$ | the load of stack $s \in S$ *before* visiting node $\eta(E)$; |
| $O^s(E)$ | the set of requests in stack $s \in S$ *before* visiting node $\eta(E)$; |
| $\mathcal{S}_{ij}(E)$ | a binary matrix indicating the relative positions between any pair of items $i, j \in P$ in the vehicle *before* visiting node $\eta(E)$. |

The relative positions of the items are defined as

$$\mathcal{S}_{ij}(E) = \begin{cases} 1 & \text{if } i = j \text{ and item } i \text{ is in the vehicle,} \\ 1 & \text{if item } i \text{ is on top of item } j \text{ in the same stack,} \\ 1 & \text{if items } i \text{ and } j \text{ are in the same stack and at the same level,} \\ 0 & \text{otherwise.} \end{cases} \tag{4}$$

Let us recall that item $i$ is said to be on top of item $j$ if both are in the same stack, and if item $i$ is closer to the back door. Let us also recall that items $i$ and $j$ are said to be at the same level if the last time the items were unloaded, they were reloaded simultaneously in the same stack. This representation reduces the symmetry and the number of labels. In fact, it implicitly models both that $i$ has been reloaded after $j$ at the last rehandling, and vice versa. An alternative explicit modeling needs at least two label extensions, one in which $i$ is on top of $j$ and another one in which $j$ is on top of $i$, to represent the situation of simultaneously reloading two items in the same stack. For the simultaneous reloading of more than two items in the same stack even more labels have to be created. An example of the values $\mathcal{S}_{ij}(E)$ for a given label $E$ is illustrated in Figure 7.

Note further that we do not explicitly model the different stacks meaning that we do not distinguish the stacks, i.e., the *left* stack and the *right* stack of the vehicle in Figure 7, but treat them as symmetric. For example, we only model that item 5 is on top of item 4 in any one of the two stacks (left or right) of the vehicle. Together with appropriately defined REFs and dominance rules this prevents keeping many symmetrical labels and, thus, further reduces the number of labels in our algorithm.




$$\mathcal{S}_{11}(E) = 1 \qquad \mathcal{S}_{21}(E) = 1$$
$$\mathcal{S}_{22}(E) = 1 \qquad \mathcal{S}_{23}(E) = 1$$
$$\mathcal{S}_{33}(E) = 1 \qquad \mathcal{S}_{31}(E) = 1$$
$$\mathcal{S}_{44}(E) = 1 \qquad \mathcal{S}_{32}(E) = 1$$
$$\mathcal{S}_{55}(E) = 1 \qquad \mathcal{S}_{54}(E) = 1$$

**Figure 7: Non-zero values of $\mathcal{S}_{ij}(E)$ for the partial path ending at node $\eta(E)$**

**Label Extension.** When extending a label, several possibilities to unload and reload items might exist. The extension of a label $E$ along arc $(\eta(E), j)$, therefore, creates multiple labels $E^h, \forall h \in \mathcal{H}(E)$, where $\mathcal{H}(E)$ is the set of feasible combinations of *handling operations* (i.e., loading of items at pickup nodes, and unloading and reloading of items at delivery nodes) at node $\eta(E)$. For convenience, the term extension is also used to refer to a feasible combination of handling operations. The set of extensions depends on the handling policy and on whether $\eta(E)$ is a pickup or a delivery node. Every extension $h := ((RF^s(h))_{s\in S}, (RT^s(h))_{s\in S}) \in \mathcal{H}(E)$ is defined by the two following sets for each stack $s \in S$ (formalized in Section 3.1.2):

- $RF^s(h)$ the set of items currently in stack $s$ that are unloaded and reloaded at node $\eta(E)$; they might be reloaded in stack $s$ or in another stack $s' \neq s$;
- $RT^s(h)$ the set of items that are loaded in stack $s$ at node $\eta(E)$; they can either be loaded for the first time if $\eta(E) \in P$ or they can be unloaded from stack $s$ or another stack $s' \neq s$ and reloaded in stack $s$.

Note that the item $\eta(E) - n$ delivered at node $\eta(E) \in D$ is not in the set $RF^{s^*}(h)$, where $s^*$ denotes the stack in which item $\eta(E) - n$ is positioned. For convenience, we also define the set $RF(h) := \bigcup_{s\in S} RF^s(h)$ of all items that are unloaded and reloaded for extension $h \in \mathcal{H}(E)$.

Before we describe the REFs, let us introduce the following additional notation. Let $\mathcal{T}_i(E) = \{j \in P | \mathcal{S}_{ji}(E) > \mathcal{S}_{ij}(E)\}$ be the set of items strictly on top of $i$, i.e., those that are in the same stack and need to be unloaded before delivering item $i$. Furthermore, let $\mathcal{L}_i(E) = \{j \in P\backslash\{i\} | \mathcal{S}_{ji}(E) = \mathcal{S}_{ji}(E) = 1\}$ be the set of items at the same level than $i$.

The REFs for extension $h \in \mathcal{H}(E)$ of label $E$ along arc $(\eta(E), j)$ creating label $E^h$ are as follows:

$$\eta(E^h) = j, \tag{5}$$

$$t(E^h) = \max\{\underline{w}_j, t(E) + \delta \sum_{i\in RF(h)} q_i + t_{\eta(E),j}\}, \tag{6}$$

$$c(E^h) = c(E) + \bar{c}_{\eta(E),j}, \tag{7}$$

$$U(E^h) = \begin{cases} U(E) \cup \{j\} \cup \{i \in P | t(E^h) + t_{ji} > \overline{w}_i\} & \text{if } j \in N\backslash D, \\ U(E) \cup \{i \in P | t(E^h) + \delta \sum_{k\in\mathcal{T}_j(E^h)} q_k + t_{ji} > \overline{w}_i\} & \text{if } j \in D, \end{cases} \tag{8}$$

$$q^s(E^h) = \left\{ \begin{array}{ll} q^s(E) + \sum_{i\in RT^s(h)} q_i & \text{if } \eta(E) \in N\backslash D, \\ q^s(E) - \sum_{i\in RF^s(h)} q_i + \sum_{i\in RT^s(h)} q_i & \text{if } \eta(E) \in D, s \neq s^*, \\ q^s(E) - \sum_{i\in RF^s(h)} q_i + \sum_{i\in RT^s(h)} q_i - q_{\eta(E)-n} & \text{if } \eta(E) \in D, s = s^*, \end{array} \right\} \quad \forall s \in S, \tag{9}$$

$$O^s(E^h) = \left\{ \begin{array}{ll} \{O^s(E) \setminus \{RF^s(h) \cup \{\eta(E) - n\}\}\} \cup RT^s(h) & \text{if } \eta(E) \in D, s = s^*, \\ \{O^s(E) \setminus RF^s(h)\} \cup RT^s(h) & \text{otherwise,} \end{array} \right\} \quad \forall s \in S, \tag{10}$$

$$\mathcal{S}_{ki}(E^h) = \begin{cases} 1 & \text{if } \eta(E) \in P \text{ and } k = i = \eta(E), \\ 1 & \text{if } \eta(E) \in P, k = \eta(E), \text{ and } i \in O^s(E) \\ & \quad \text{such that } \eta(E) \in RT^s(h), \\ 0 & \text{if } \eta(E) \in D \text{ and } k = \eta(E) - n, \\ 0 & \text{if } \eta(E) \in D \text{ and } i = \eta(E) - n, \\ 1 & \text{if } \eta(E) \in D \text{ and } k, i \in RT^s(h), \\ 1 & \text{if } \eta(E) \in D \text{ and } i \in O^s(E) \\ & \quad \text{such that } k \in RT^s(h) \text{ and } i \notin RF^s(h), \\ 0 & \text{if } \eta(E) \in D \text{ and } i \in O^s(E) \\ & \quad \text{such that } k \in RF^s(h), k \notin RT^s(h) \text{ and } i \notin RF^s(h), \\ 0 & \text{if } \eta(E) \in D \text{ and } k \in O^s(E) \\ & \quad \text{such that } k \notin RF^s(h), i \in RF^s(h) \cup RT^s(h), \\ \mathcal{S}_{ki}(E) & \text{otherwise,} \end{cases} \quad \forall k, i \in P. \tag{11}$$

Equations (11) impose the following:

- If $\eta(E)$ is a pickup node, the corresponding item is onboard the vehicle and on top of all other items in the stack where it is loaded.
- If $\eta(E)$ is a delivery node, the corresponding item is not on top of any other item and no other item is on top of the corresponding item (because it is no longer onboard the vehicle).
- If $\eta(E)$ is a delivery node, all items that are reloaded in the same stack are at the same level.
- If $\eta(E)$ is a delivery node, all items that are reloaded in some stack are on top of all other items that were not unloaded and remained in that stack.
- If $\eta(E)$ is a delivery node, all items that are unloaded from a stack and reloaded to another stack are no longer on top of other items that were not unloaded and remained in the former stack.
- If $\eta(E)$ is a delivery node, items that were not unloaded and remained in their stack are not on top of any other item that is rehandled from or to this stack.

Label $E^h$ is feasible if the time windows and the capacity constraints are respected, i.e., if

$$t(E^h) \leq \overline{w}_j, \tag{12}$$
$$q^s(E^h) \leq Q, \qquad \forall s \in S. \tag{13}$$

**Label Dominance.** A label $E_1$ dominates another label $E_2$ if

$$\eta(E_1) = \eta(E_2), \tag{14}$$
$$t(E_1) \leq t(E_2), \tag{15}$$
$$c(E_1) \leq c(E_2), \tag{16}$$
$$U(E_1) \subseteq U(E_2), \tag{17}$$
$$\mathcal{S}_{ij}(E_1) = \mathcal{S}_{ij}(E_2), \qquad \forall i, j \in P. \tag{18}$$

Condition (14) ensures that we can only dominate if the partial paths end at the same node. Conditions (15)–(16) ensure that it is better to have a path for which the time and the reduced cost are not greater. Condition (17) ensures that every unreachable node for label $E_1$ must also be unreachable for label $E_2$. Conditions (18) ensure that the relative positions of all pairs of items $i, j \in P$ are identical for labels $E_1$ and $E_2$ implying that the stacks contain the same items.

**Proposition 1** *Conditions (14)–(18) constitute a valid dominance criterion for the elementary shortest path problem with pairing and precedence, capacity constraints, time windows, multiple stacks and handling policies 1–6.*

**Proof.** Given that the REFs (6)–(8) for the time, cost, and unreachable resources are non-decreasing label $E_1$ dominates label $E_2$ as strict equality is imposed on conditions (14) and (18). □

For policies 2, 3, 5 and 6, where preventive unloading is allowed, we can relax conditions (18) as follows:

$$O^s(E_1) = O^s(E_2), \qquad \forall s \in S \tag{19}$$
$$\mathcal{S}_{ij}(E_1) \geq \mathcal{S}_{ij}(E_2), \qquad \forall i, j \in P. \tag{20}$$

Conditions (19) imply that the same items must be loaded in the same stack in the vehicle for the partial paths associated with labels $E_1$ and $E_2$. Conditions (20) state that it is always better for items to be at the same level, i.e., $\mathcal{S}_{ij}(E) = \mathcal{S}_{ji}(E) = 1, i \neq j$, than to be strictly ordered, i.e., $\mathcal{S}_{ij}(E) > \mathcal{S}_{ji}(E), i \neq j$ or $\mathcal{S}_{ij}(E) < \mathcal{S}_{ji}(E), i \neq j$. Because the stacks are symmetric, conditions (19) can be relaxed to:

$$\forall s \in S,\ \exists s' \in S \text{ such that } O^s(E_1) = O^{s'}(E_2). \tag{21}$$

**Proposition 2** *Conditions (14)–(17), (20), and (21) constitute a valid dominance criterion for the elementary shortest path problem with pairing and precedence, capacity constraints, time windows, multiple stacks and handling policies 2, 3, 5 and 6.*

**Proof.** We show that every feasible completion of $E_2$ given handling policy 2, 3, 5, or 6 is also a feasible completion of $E_1$ for the same handling policy and the resulting reduced cost in the latter case is not greater than in the former case.

Let $r$ be any extension to the path $R(E_2)$ associated with $E_2$ such that $R_2 = (R(E_2), r)$ is a feasible $(0 - 2n + 1)$-path, i.e., it respects elementarity, pairing and precedence, capacity constraints, time windows, multiple stacks, and a given handling policy 2, 3, 5 or 6. If no such extension exists, $E_2$ can be safely discarded. Denote by $R_1 = (R(E_1), r)$ the path resulting from the extension of $R(E_1)$ by $r$. Because of conditions (14), (16) and (17), the reduced cost of $R_1$ is not greater than that of $R_2$ and $R_1$ respects elementarity. Conditions (21) require that the same items are onboard the vehicle for $E_1$ and $E_2$ and hence ensure pairing and precedence for $R_1$. Moreover, they ensure that the same items are in the same stacks (except for symmetry) in both labels. Conditions (20) further ensure that items at the same level in $E_2$ are also at the same level in $E_1$, while items with a strict ordering in $E_2$, i.e., one strictly above the other, either have the same relative positions or are at the same level in $E_1$. Because any rehandling that is feasible with a strict ordering of items is also feasible if the items are at the same level (and does not require more handling time in the latter case), conditions (15), (20), and (21) guarantee that $R_1$ also fulfills capacity constraints, time windows, multiple stacks, and the given handling policy. □

### 3.1.2 Feasible handling operations for the six policies

We now define in detail the sets $\mathcal{H}(E)$ of feasible extensions, i.e., the sets $RF^s(h)$ and $RT^s(h)$ for $s \in S$, according to the different handling policies and whether $\eta(E)$ is a pickup or a delivery node. Let us introduce the following additional notation. For a given label $E$, the set of stacks $S = S^0(E) \cup S^{\geq 1}(E)$ is subdivided into the set of empty stacks $S^0(E) = \{s \in S | O^s(E) = \emptyset\}$ and the set of non-empty stacks $S^{\geq 1}(E) = \{s \in S | O^s(E) \neq \emptyset\}$. Furthermore, for each non-empty stack $s \in S^{\geq 1}(E)$, let us define a level $\mathbb{L}^s_\kappa(E)$ as the set of items that are in level $\kappa$, i.e., $i, j \in O^s(E)$ are in the same level $\mathbb{L}^s_\kappa(E)$ if $\mathcal{S}_{ij}(E) = \mathcal{S}_{ji}(E) = 1$. A level can also comprise a single item $i$ only if $\mathcal{L}_i(E) = \emptyset$ and $i$ is onboard the vehicle. For each stack, $1 \leq \kappa \leq \ell^s$, where $\ell^s$ is the number of levels of the stack and level 1 is the topmost level. Accordingly, each item in level $\kappa$ is strictly on top of each item in levels strictly larger than $\kappa$.

Consider first the case $\eta(E) \in P$, i.e., $\eta(E)$ is a pickup node. Because rehandling is not allowed at pickup nodes, none of the on-board items is unloaded and reloaded. Moreover, the item to pick up can

be loaded in any of the stacks. Because stacks are symmetric, it is not necessary to consider loading it in different empty stacks. Consequently, we have exactly one extension for each non-empty stack and one extension for at most one empty stack, say the one with the smallest index, if there is one. For convenience, we denote a corresponding set of stacks as

$$S'^{\geq 1}(E) = \begin{cases} S^{\geq 1}(E) & \text{if } S^0(E) = \emptyset, \\ S^{\geq 1}(E) \cup \{\min S^0(E)\} & \text{otherwise.} \end{cases} \tag{22}$$

Formally, the set of feasible extensions at pickup nodes can then be defined as

$$\mathcal{H}_p(E) := \bigcup_{s' \in S'^{\geq 1}(E)} \left\{ ((RF_p^s(h))_{s\in S}, (RT_p^s(h))_{s\in S} \right\}, \tag{23}$$

where

$$RF_p^s(h) = \emptyset \quad \forall s \in S, \tag{24}$$

$$RT_p^s(h) = \begin{cases} \eta(E) & \text{if } s = s', \\ \emptyset & \text{otherwise.} \end{cases} \tag{25}$$

In the case $\eta(E) \in D$, i.e., $\eta(E)$ is a delivery node, the feasible combinations of sets $RF^s(h)$ and $RT^s(h)$ depend on the handling policy. Appendix A presents a detailed example. Recall that $s^*$ denotes the stack of item $\eta(E) - n$ and that by definition $\eta(E) - n \notin RF^{s^*}(h)$.

**Policy 1.** With policy 1, only compulsory unloading operations are allowed. Therefore, all (and only) items that are in the same stack and on top of item $\eta(E) - n$ are rehandled. Since inter-stack reloading is forbidden, all items are reloaded in their previous stack. Thus,

$$\mathcal{H}_{d1}(E) := \left\{ ((RF_{d1}^s(h))_{s\in S}, (RT_{d1}^s(h))_{s\in S} \right\}, \tag{26}$$

where

$$RF_{d1}^s(h) = \begin{cases} \mathcal{T}_{\eta(E)-n}(E) & \text{if } s = s^*, \\ \emptyset & \text{otherwise,} \end{cases} \tag{27}$$

$$RT_{d1}^s(h) = RF_{d1}^s(h) \quad \forall s \in S. \tag{28}$$

**Policy 2.** With policy 2, preventive intra-stack unloading operations are allowed. In addition to the mandatory rehandling, all items that are in stack $s^*$ can be rehandled, and those items can only be unloaded if all the items strictly on top of them have also been unloaded. Finally, because inter-stack reloading is forbidden, all items are reloaded in their previous stack.

To formally describe the set of feasible extensions, we need the following notation. Denote by $\kappa^*$ the level of item $\eta(E) - n$ in stack $s^*$ and by $\bar{x}^{k,s} = \bigcup_{k'=1}^{k} \mathbb{L}_{k'}^s \setminus \{\eta(E) - n\}$ the set of all items (excluding item $\eta(E) - n$) that are in levels 1 to $k$ of a stack $s$. Let $\mathscr{P}(X)$ be the power set of a set $X$ and $\mathscr{P}^*(X) := \mathscr{P}(X) \setminus \emptyset$ be the power set of $X$ excluding the empty set. Furthermore, let

$$X^{1,s} = \begin{cases} \emptyset & \text{if } s = s^*, \kappa^* > 1, \\ \mathscr{P}(\mathbb{L}_1^s \setminus \{\eta(E) - n\}) & \text{if } s = s^*, \kappa^* = 1, \\ \mathscr{P}(\mathbb{L}_1^s) & \text{if } s \neq s^*, s \in S^{\geq 1}(E), \\ \emptyset & \text{if } s \in S^0(E), \end{cases} \tag{29}$$

and

$$X^{k,s} = \begin{cases} \emptyset & \text{if } s = s^*, \kappa^* > k, \\ \bigcup\limits_{x \in \mathscr{P}(\mathbb{L}_k^s \setminus \{\eta(E)-n\})} x \cup \bar{x}^{k-1,s} & \text{if } s = s^*, \kappa^* = k, \\ X^{k-1,s} \cup \left\{ \bigcup\limits_{x \in \mathscr{P}^*(\mathbb{L}_k^s)} x \cup \bar{x}^{k-1,s} \right\} & \text{if } s = s^*, \kappa^* < k, \\ X^{k-1,s} \cup \left\{ \bigcup\limits_{x \in \mathscr{P}^*(\mathbb{L}_k^s)} x \cup \bar{x}^{k-1,s} \right\} & \text{if } s \neq s^*, \end{cases} \tag{30}$$

for $2 \leq k \leq \ell^s$ be auxiliary sets that collect in a level-by-level fashion all subsets of items $x$ such that only those items $i$ are in a set $x$ for which also all on-top items $\mathcal{T}_i(E)$ are in $x$. Then, the set of feasible extensions for policy 2 is given by

$$\mathcal{H}_{d2}(E) := \bigcup_{x \in X^{\ell^{s^*},s^*}} \{((RF^s_{d2}(h))_{s\in S}, (RT^s_{d2}(h))_{s\in S}\}, \tag{31}$$

with

$$RF^s_{d2}(h) = \begin{cases} x & \text{if } s = s^*, \\ \emptyset & \text{otherwise,} \end{cases} \tag{32}$$

$$RT^s_{d2}(h) = RF^s_{d2}(h) \quad \forall s \in S. \tag{33}$$

**Policy 3.** With policy 3, preventive operations are not restricted to stack $s^*$ as with policy 2, but are allowed for any stack $s \in S$. Consequently, all items regardless of their stack can be rehandled as long as all items strictly on top of them are also rehandled. Again, mandatory rehandlings have to be performed and all items are reloaded in their previous stack. Using the above-defined auxiliary sets and defining $\ell^s = 1$ for all empty stacks $s \in S^0(E)$, we can define

$$\mathcal{H}_{d3}(E) := \bigcup_{(x_s)_{s\in S} \in (X^{\ell^s,s})_{s\in S}} \{((RF^s_{d3}(h))_{s\in S}, (RT^s_{d3}(h))_{s\in S}\}, \tag{34}$$

with

$$RF^s_{d3}(h) = x_s \quad \forall s \in S, \tag{35}$$

$$RT^s_{d3}(h) = RF^s_{d3}(h) \quad \forall s \in S. \tag{36}$$

**Policy 4.** As in policy 1, only compulsory unloading operations are allowed. Policy 4, however, allows inter-stack reloading operations so that rehandled items can be reloaded in any stack. Given sets $RF^s(h)$ for all stacks $s \in S$, any feasible reloading possibility $(RT^s(h))_{s\in S}$ has to fulfill

$$\bigcup_{s\in S} RF^s(h) = \bigcup_{s\in S} RT^s(h), \tag{37}$$

$$RT^s(h) \cap RT^{s'}(h) = \emptyset, \qquad \forall s, s' \in S, s \neq s', \tag{38}$$

that is all unloaded items must be reloaded in a single stack. To eliminate symmetry with respect to the stacks, we can further require that for each empty stack the number of reloaded items in a lower indexed stack be greater than in a greater indexed stack, and that, when the number of reloaded items is the same, the lower numbered item is in the lower numbered stack, i.e.,

$$|RT^s(h)| \geq |RT^{s'}(h)| \qquad \forall s, s' \in \bar{S}^0(E,h), s < s', \tag{39}$$

$$\min RT^s(h) \leq \min RT^{s'}(h) \qquad \forall s, s' \in \bar{S}^0(E,h), |RT^s(h)| = |RT^{s'}(h)|, s < s', \tag{40}$$

where $\bar{S}^0(E,h) = \{s \in S | O^s(E) \setminus \{RF^s(h) \cup \{\eta(E) - n\}\} = \emptyset\}$ is the set of empty stacks after items have been unloaded. We denote by $\mathcal{P}((RF^s(h))_{s\in S}) = \{(RT^s(h))_{s\in S} | (37) - (40)\}$ the set of reloading possibilities compatible with the unloaded items $(RF^s(h))_{s\in S}$. Note that extensions leading to infeasible labels (capacity or time windows) can be filtered out by adding conditions (12) and (13). Then, the set of feasible extensions for a label $E$ with policy 4 is

$$\mathcal{H}_{d4}(E) := \bigcup_{(RT^s(h))_{s\in S} \in \mathcal{P}((RF^s_{d1}(h))_{s\in S})} \{((RF^s_{d1}(h))_{s\in S}, (RT^s(h))_{s\in S}\}. \tag{41}$$

**Policy 5.** In policy 5, intra-stack unloading and inter-stack reloading operations are allowed. Thus, the set of feasible extensions comprises all combinations of the unloading possibilities described for policy 2 and the reloading possibilities given for policy 4. Formally,

$$\mathcal{H}_{d5}(E) := \bigcup_{x \in X^{\ell^{s^*},s^*}} \left\{ \bigcup_{(RT^s(h))_{s\in S} \in \mathcal{P}((RF^s_{d2}(h))_{s\in S})} \{((RF^s_{d2}(h))_{s\in S}, (RT^s(h))_{s\in S}\} \right\}. \tag{42}$$

**Policy 6.** Policy 6 combines the inter-stack unloading of policy 3 with the inter-stack reloading of policy 4, so that the set of feasible extensions is again the combination of the respective unloading and reloading possibilities:

$$\mathcal{H}_{d6}(E) := \bigcup_{(x_s)_{s\in S}\in(X^{\ell^s,s})_{s\in S}} \left\{ \bigcup_{(RT^s(h))_{s\in S}\in\mathcal{P}((RF^s_{d3}(h))_{s\in S})} \{((RF^s_{d3}(h))_{s\in S},(RT^s(h))_{s\in S}\} \right\}. \quad (43)$$

### 3.1.3 Theoretical Analysis on the Number of Label Extensions.

In this section, we analyze the complexity of the labeling algorithm in terms of label extensions. In particular, we explain and derive upper bounds on the number of label extensions, i.e., on the size of $|\mathcal{H}(E)|$, at a given node. We first explain the upper bounds when $\eta(E) \in P$ and then when $\eta(E) \in D$. In the latter case, the upper bounds vary according to the policy.

If $\eta(E) \in P$, we have at most one extension for each non-empty stack $s \in S^{\geq 1}(E)$ and, if there are empty stacks, exactly one additional extension.

If $\eta(E) \in D$, the number of extensions depends on the number of unloading and reloading options, which varies according to the policy. Let $\iota$ define the maximal number of items in a stack according to the capacity $Q$.

**Unloading possibilities for policies 1 and 4.** For policies 1 and 4, only compulsory unloading operations are allowed so that there is exactly one unloading possibility, i.e., the set $\mathcal{T}_{\eta(E)-n}(E)$. If $\mathcal{T}_{\eta(E)-n}(E) = \emptyset$, then this single unloading option means that none of the items are rehandled.

**Unloading possibilities for policies 2 and 5.** Policies 2 and 5 allow preventive intra-stack unloading operations. For a given extension, the number of unloading possibilities is, therefore, given by

$$1 + (2^{|\mathcal{L}_{\eta(E)-n}(E)|} - 1) + \sum_{\kappa=\kappa^*+1}^{\ell^{s^*}} (2^{|\mathbb{L}^{s^*}_\kappa|} - 1). \quad (44)$$

The first term states that there is exactly one unloading possibility for the set $\mathcal{T}_{\eta(E)-n}(E)$. The second term represents the unloading possibilities of the items in the same level as $\eta(E) - n$ (only non-empty subsets). The third term represents the unloading possibilities of the items in the same level that are strictly below $\eta(E) - n$ (only non-empty subsets).

An upper bound on equation (44) can be derived when considering the worst case scenario $|\mathcal{L}_{\eta(E)-n}(E)| = \iota - 1$, i.e., the stack is full and all items are at the same level. Then, when delivering item $\eta(E) - n$, we can unload any combination of the remaining items that are in its stack. Therefore, an upper bound on the maximal number of unloading possibilities defined with equation (44) is

$$2^{\iota-1}. \quad (45)$$

**Unloading possibilities for policies 3 and 6.** With policies 3 and 6, any subset of items can be unloaded from any stack provided that all the items strictly on top of unloaded items are also unloaded and all items strictly on top of item $\eta(E) - n$ are unloaded. The corresponding number of unloading possibilities is defined as follows:

$$\left(1 + (2^{|\mathcal{L}_{\eta(E)-n}(E)|} - 1) + \sum_{\kappa=\kappa^*+1}^{\ell^{s^*}} (2^{|\mathbb{L}^{s^*}_\kappa|} - 1)\right) \prod_{s\in S, s\neq s^*} \left(1 + \sum_{\kappa=1}^{\ell^s} (2^{|\mathbb{L}^s_\kappa|} - 1)\right) \quad (46)$$

Similarly to policies 2 and 5, the first term computes the number of unloading possibilities for the stack $s^*$ in which item $\eta(E) - n$ is loaded, while the second term computes the number of unloading possibilities for each of the other stacks where unloading none of the items is also a feasible option.

An upper bound on equation (46) can be derived when considering the worst case scenario $|\mathbb{L}_1^s(E)| = \iota, \forall s \in S$, i.e., all stacks are full and in each stack all items are at the same level. In that case, when delivering item $\eta(E) - n$, we can unload any combination of the remaining items. Therefore, an upper bound on the maximal number of unloading possibilities defined with equation (46) is

$$2^{\iota-1} \cdot (|S| - 1)2^{\iota}. \tag{47}$$

**Reloading possibilities for policies 1, 2, and 3.** Because each item must be reloaded in its original stack there is exactly one reloading possibility for all three policies.

**Reloading possibilities for policies 4, 5, and 6.** Because inter-stack reloading is permitted with policies 4, 5, and 6, the unloaded items $RF(h)$ can be reloaded in the different stacks in any feasible combination, i.e., any subsets of items can be loaded in any of the stacks as long as all unloaded items are reloaded, each item is loaded in one stack only, and the reloadings are feasible with respect to the stacks' capacities. The number of loading possibilities that need to be considered can be reduced by removing the symmetry between the empty stacks with conditions (39)–(40).

To formalize the number of loading possibilities, similarly to $\bar{S}^0(E,h)$, let us denote $\bar{S}^{\geq 1}(E,h) = \{s \in S | O^s(E) \setminus RF^s(h) \neq \emptyset \text{ and } O^s(E) \setminus RF^s(h) \neq \{\eta(E) - n\}\}$ the set of non-empty stacks after items have been unloaded. Furthermore, let $\left\{ {\nu \atop \mu} \right\}$ denote the Stirling number of the second kind, i.e., the number of possibilities to partition $\nu$ elements into $\mu$ non-empty subsets. Because we can decide to reload items only on a subset of stacks and due to the asymmetry between the non-empty stacks, given the set $RF(h)$ of all unloaded items, an upper bound on the number of reloadings (assuming that any subset of $RF(h)$ can be capacity-feasibly reloaded) is as follows:

$$\sum_{\mu=1}^{\min\{|S|,|RF(h)|\}} \sum_{\mu^{\geq 1}=\max\{0,\mu-|\bar{S}^0(E,h)|\}}^{\min\{\mu,|\bar{S}^{\geq 1}(E,h)|\}} \binom{|\bar{S}^{\geq 1}(E,h)|}{\mu^{\geq 1}} \frac{\mu!}{(\mu-\mu^{\geq 1})!} \left\{ {|RF(h)| \atop \mu} \right\}. \tag{48}$$

The first sum states that the unloaded items can be distributed in any number $k$ of stacks between one, and the minimum between the number of stacks and the number of unloaded items. The second sum describes that, of the $\mu$ stacks in which items are reloaded, $\mu^{\geq 1}$ between $\max\{0, \mu - |\bar{S}^0(E,h)|\}$ and $\min\{\mu, |\bar{S}^{\geq 1}(E,h)|\}$ can be chosen from the non-empty stacks while the remaining $\mu - \mu^{\geq 1}$ are empty stacks. The first term then gives the number of possibilities to choose $\mu^{\geq 1}$ of the $|\bar{S}^{\geq 1}(E,h)|$ non-empty stacks. For the empty stacks, because they are symmetric there is only one possibility for the $\mu - \mu^{\geq 1}$ empty stacks. The second term represents the number of permutations of the chosen non-empty stacks, due to their asymmetry. Finally, the third term represents, for a given permutation, the number of possibilities to distribute the unloaded items in the stacks.

Obviously, the bound (48) depends on the cardinality of $|RF(h)|$ which is bounded by $\iota - 1$ in policies 4 and 5 and by $\iota|S| - 1$ in policy 6.

*Summary* According to the number of unloading and reloading possibilities previously defined, we can propose upper bounds on the number of unloading and reloading possibilities, which when multiplied give an upper bound on the number of extensions of a label $E$ along arc $(\eta(E), j)$. Table 2 presents a summary.

## 3.2 Valid inequalities

Two families of valid inequalities are implemented in the proposed BPC algorithm: rounded capacity cuts and subset-row cuts. These inequalities have been shown to be valid for the PDPTWH (Veenstra et al. 2017a) and the PDPTWMS (Cherkesly et al. 2016).

The first family of valid inequalities that we use are *rounded capacity cuts*, which are commonly used for VRP variants including PDPs (see, e.g., Naddef and Rinaldi 2002, Cordeau 2006, Ropke et al.

**Table 2: Number of unloading and reloading possibilities for each policy if $\eta(E) \in D$**

| Policy | # Unloading possibilities | # Reloading possibilities |
|---|---|---|
| 1 | 1 | 1 |
| 2 | Eq. (44) | 1 |
| 3 | Eq. (46) | 1 |
| 4 | 1 | Eq. (48) |
| 5 | Eq. (44) | Eq. (48) |
| 6 | Eq. (46) | Eq. (48) |

2007). They have also been adapted and shown to be valid for variants with multiple stacks (see Côté et al. 2012, Cherkesly et al. 2016). Let $Q^* = \sum_{s \in S} Q$ denote the total capacity of the vehicle. For a given subset of nodes $\Phi \subseteq P \cup D$, let us define $\xi(\Phi)$ as a lower bound on the number of vehicles required to serve all nodes in $\Phi$, which can be computed as $\xi(\Phi) = \max\left\{1, \left\lceil \frac{q(\pi(\Phi))}{Q^*} \right\rceil, \left\lceil \frac{-q(\sigma(\Phi))}{Q^*} \right\rceil\right\}$, where $\pi(\Phi) = \{i \in P | i \notin \Phi, n+i \in \Phi\}$ represents the set of predecessors of $\Phi$ and $q(\pi(\Phi)) = \sum_{i \in \pi(\Phi)} q_i$ the lower bound on the total vehicle load when entering $\Phi$, similarly, $\sigma(\Phi) = \{n+i \in D | i \in \Phi, n+i \notin \Phi\}$ represents the set of successors node $\Phi$ and $q(\sigma(\Phi)) = \sum_{i \in \sigma(\Phi)} q_i$ the lower bound on the total vehicle load when exiting $\Phi$. For a given set $\Phi$, the rounded capacity cuts can be expressed as

$$\sum_{r \in \Omega} \sum_{(i,j) \in A(\Phi)} a_{ij}^r y_r \geq \xi(\Phi), \tag{49}$$

where the binary parameter $a_{ij}^r$ indicates if route $r$ traverses arc $(i,j) \in A$ or not, and where $A(\Phi) = \{(i,j) \in A | i,j \in \Phi\}$. These cuts are robust as the dual price of each cut refers to the comprised arcs and can be directly incorporated into the reduced costs $\bar{c}_{ij}$. They are separated with an enumerative heuristic (Ropke et al. 2007).

The second family of valid inequalities that we use are *subset-row cuts*, first introduced by Jepsen et al. (2008) for the VRPTW. They are Chvátal–Gomory rank-1 cuts based on a subset of the constraints in the master problem. Because each additional cut requires an additional resource, they are non-robust. For the PDPTWMS-H, a subset-row cut is defined on a subset of requests, and, as in several other works, we restrict ourselves to subsets of cardinality three. The subset-row cuts can be expressed as

$$\sum_{r \in \Omega_\Phi} y_r \leq 1, \quad \forall \Phi \subseteq P \text{ such that } |\Phi| = 3, \tag{50}$$

where $\Omega_\Phi$ represents the set of routes completing two or more requests from the set $\Phi$. To reduce the negative impact on the pricing problem, Pecin et al. (2017a) introduced a limited memory variant of the subset-row cuts that works in a similar fashion as the well-known *ng*-route relaxation, i.e., a vertex memory controls at which vertices the state of a subset-row-cut resource remains relevant. We use the same separation algorithm and vertex memory as described in Pecin et al. (2017b).

## 3.3 Branching

To ensure integer solutions, we use the following hierarchical branching scheme which is compatible with the pricing problem solver. We first branch on the number of vehicles, if fractional, by creating two branches and adding the following constraints to the RMP:

$$\sum_{r \in \Omega} y_r \leq \left\lfloor \sum_{r \in \Omega} \tilde{y}_r \right\rfloor, \tag{51}$$

$$\sum_{r \in \Omega} y_r \geq \left\lceil \sum_{r \in \Omega} \tilde{y}_r \right\rceil, \tag{52}$$

where $(\tilde{y}_1, \ldots, \tilde{y}_{|\Omega|})$ is the current fractional solution of the master problem. Second, as commonly done for PDPs, we branch on the outflow of a subset of nodes. For each subset of nodes $\Phi$ its total

outflow can be computed as $f(\Phi) = \sum_{r\in\Omega} \sum_{(i,j)\in\zeta(\Phi)} a_{ij}^r \tilde{y}_r$, where $\zeta(\Phi) = \{(i,j) \in A | i \in \Phi, j \in N \backslash \Phi\}$. A subset $\Phi$ is selected such that $f(\Phi)$ is the furthest from its nearest integer, and two branches are created by adding the following constraints to the RMP:

$$\sum_{r\in\Omega} \sum_{(i,j)\in\zeta(\Phi)} a_{ij}^r y_r \leq \lfloor f(\Phi) \rfloor , \tag{53}$$

$$\sum_{r\in\Omega} \sum_{(i,j)\in\zeta(\Phi)} a_{ij}^r y_r \geq \lceil f(\Phi) \rceil . \tag{54}$$

Finally, a best-first strategy is implemented to explore the branching tree.

# 4 Results

All algorithms have been coded in C++ and CPLEX 12.6.1 is used to solve the RMPs. The experiments were conducted on a Windows computer equipped with an Intel core i7-6900k processor using a single thread only. A computational time limit of 3,600 seconds has been used. In this section, we describe the benchmark instances for this problem and conduct extensive experiments to determine the potential impact of each policy as well as the rehandling time on the quality of the solution (the number of vehicles and the total routing costs).

## 4.1 Characteristics of the instances

We have tested our algorithm on the benchmark instances proposed by Cherkesly et al. (2016) for the PDPTWMS which have been adapted from the TSPLIB instances `a280, brd14051, d18512, fnl4461`, and `nrw1379` according to the ideas of Carrabs et al. (2007a,b), Cordeau et al. (2010), Côté et al. (2012). As in Cherkesly et al. (2016), we restrict our experiments to two and three stacks. In practice, considering more than three stacks in a vehicle does not usually arise. For the unitary rehandling time $\delta$, we have tested six different values, i.e., $\delta \in \{0, 1, 5, 10, 25, 50\}$.

The original benchmark comprises two classes of instances. More precisely, for each base instance, two different demand schemes are applied. In the first class (C1), each item has a unitary demand, while in the second class (C2), each item has a random demand between three and nine. Considering the large number of variants that we consider (six handling policies, six values of $\delta$), we only report results for instances of the second class as they are more representative of real-life applications. In the instances, the total capacity of the vehicle is 24 and 27 for the two- and three-stack variant, respectively. All the instances contain between 25 and 75 requests. For the `a280` instances, three time window horizons are considered, i.e., $\underline{w}_i \leq 500, \forall i \in P$ and $\underline{w}_i \leq 1000, \forall i \in D$ (denoted by 500–1000), $\underline{w}_i \leq 1000, \forall i \in P$ and $\underline{w}_i \leq 1200, \forall i \in D$ (denoted by 1000–1200), and $\underline{w}_i \leq 1500, \forall i \in P$ and $\underline{w}_i \leq 2000, \forall i \in D$ (denoted by 1500–2000). In addition, for each time window horizon, three lengths of time windows ranging from 15 to 45 are considered. For the other instances, only one time window horizon is considered, i.e., $\underline{w}_i \leq 3000, \forall i \in P$ and $\underline{w}_i \leq 4000, \forall i \in D$ (3000–4000), and five lengths of time windows ranging from 45 to 120 are considered.

Finally, a fixed cost of 100,000 has been imposed on the arcs exiting the depot, i.e., all arcs $(0, i) \in A, i \in P$, ensuring that the number of vehicles is minimized first. If the fixed cost of the vehicles are sufficiently large, only the greater equal branch, i.e., the one corresponding with constraints (52), is necessary when branching on the number of vehicles, thus reducing the size of the branching tree. However, in pre-tests we observed that using the fixed cost of 100,000 this led to cutting off the optimal solution deeper in the tree for some instances. Therefore, in the root node and if the fractionality of the number of vehicles is greater than 0.1 we only create the greater equal branch. In all other cases, we are cautious and create both branches when branching on the number of vehicles.

## 4.2 Comparison with the PDPTWMS literature

We first compare our algorithm with the current state-of-the-art BPC algorithm proposed by Cherkesly et al. (2016) for the pickup and delivery problem with time windows and multiple stacks (PDPTWMS), i.e., the problem variant without rehandling. Indeed, when setting $\delta$ sufficiently large, all rehandling operations result in time-window infeasibilities so that our BPC (with any of the six policies) solves the PDPTWMS. We refer to this variant as policy 0. The comparison aims at showing that our algorithm constitutes a valid basis to conduct further analysis on the PDPTWMS-H.

Table 3 compares the performance of our BPC with policy 0 with the results of Cherkesly et al. (2016). It presents summarized results according to the number of stacks (*# Stacks*) and the class (*Class*). For both algorithms, we give the number of instances solved to proven optimality within our computational time limit of 3,600 seconds (*# Opt.*) and the average computational time in seconds (*Avg. Sec.*, instances not solved are counted with 3,600 seconds). Note that Cherkesly et al. (2016) used a time limit of 7,200 seconds in their experiments. We report, however, the results as if they imposed a limit of 3,600 seconds. Finally, the last column reports the number of previously unsolved instances solved to optimality with our algorithm. Note that all instances solved to optimality by Cherkesly et al. (2016) are also solved to optimality with our algorithm. Instance-by-instance results of our BPC algorithm are presented in Appendix B.

Table 3 reveals that our algorithm clearly outperforms the current state-of-the-art algorithm for the PDPTWMS proposed by Cherkesly et al. (2016). It is faster by a factor of at least three on average for any of the considered instance groups. In addition, many instances are now solved to proven optimality. This is especially true for instances of class C1, which were harder to solve for Cherkesly et al. (2016) because of the symmetry induced.

**Table 3: Comparison with the current state-of-the-art for the PDPTWMS**

| | | Cherkesly et al. (2016) | | This paper | | |
|---|---|---|---|---|---|---|
| # Stacks | Class | # Opt. | Avg. sec. | # Opt. | Avg. sec. | # New opt. |
| 1 | C1 | 280 | 648.1 | 317 | 56.6 | 37 |
| 1 | C2 | 313 | 105.0 | 319 | 12.7 | 6 |
| 2 | C1 | 92 | 2729.3 | 263 | 809.1 | 171 |
| 2 | C2 | 225 | 1315.6 | 288 | 488.9 | 63 |
| 3 | C1 | 73 | 2918.5 | 258 | 864.2 | 185 |
| 3 | C2 | 193 | 1728.4 | 286 | 503.0 | 93 |

## 4.3 Computational results for the PDPTWMS-H

Tables 4 and 5 present the number of solved instances and the average time in seconds required to solve the instances, respectively, according to the value of $\delta$, the number of stacks and the policy. Detailed instance-by-instance results are reported in Appendix C.

**Table 4: Number of instances solved within the computational time limit of 3,600 seconds**

| | Policy (two stacks) | | | | | | | | Policy (three stacks) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $\delta$ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | $\sum$ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | $\sum$ |
| 0 | 288 | 281 | 281 | 277 | 276 | 275 | 262 | 1940 | 286 | 290 | 290 | 287 | 289 | 286 | 256 | 1984 |
| 1 | 288 | 282 | 281 | 280 | 278 | 276 | 260 | 1945 | 286 | 289 | 288 | 288 | 288 | 287 | 255 | 1981 |
| 5 | 288 | 280 | 278 | 278 | 278 | 277 | 266 | 1945 | 286 | 284 | 283 | 283 | 280 | 280 | 259 | 1955 |
| 10 | 288 | 276 | 276 | 273 | 275 | 273 | 270 | 1931 | 286 | 282 | 282 | 283 | 282 | 282 | 263 | 1960 |
| 25 | 288 | 285 | 286 | 284 | 281 | 281 | 276 | 1981 | 286 | 279 | 278 | 285 | 278 | 278 | 274 | 1958 |
| 50 | 288 | 279 | 279 | 280 | 279 | 279 | 279 | 1963 | 286 | 280 | 278 | 280 | 276 | 281 | 277 | 1958 |
| $\sum$ | 1728 | 1683 | 1681 | 1672 | 1667 | 1661 | 1613 | 11705 | 1716 | 1704 | 1699 | 1706 | 1693 | 1694 | 1584 | 11796 |

As a general trend, we can see that as the flexibility in the handling operations increases, the problem becomes harder to solve, i.e., less instances are solved and the average computational time

**Table 5: Average time in seconds**

| | Policy (two stacks) | | | | | | | | Policy (three stacks) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $\delta$ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | Avg. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | Avg. |
| 0 | 489 | 579 | 588 | 625 | 629 | 657 | 825 | 627 | 503 | 478 | 485 | 519 | 504 | 538 | 898 | 561 |
| 1 | 489 | 566 | 571 | 606 | 596 | 639 | 828 | 613 | 503 | 485 | 491 | 534 | 510 | 535 | 910 | 567 |
| 5 | 489 | 546 | 571 | 594 | 560 | 592 | 764 | 588 | 503 | 529 | 534 | 559 | 560 | 579 | 866 | 590 |
| 10 | 489 | 581 | 589 | 624 | 603 | 638 | 709 | 605 | 503 | 535 | 537 | 551 | 547 | 566 | 793 | 576 |
| 25 | 489 | 567 | 556 | 572 | 597 | 618 | 647 | 578 | 503 | 589 | 590 | 561 | 590 | 601 | 704 | 591 |
| 50 | 489 | 583 | 569 | 568 | 580 | 587 | 612 | 570 | 503 | 592 | 597 | 580 | 616 | 609 | 637 | 590 |
| Avg. | 489 | 570 | 574 | 598 | 594 | 622 | 731 | 597 | 503 | 535 | 539 | 551 | 555 | 571 | 801 | 579 |

increases. In addition, increasing the value of $\delta$ does not seem to have a clear impact on the total computational time, nor the number of solved instances. Finally, increasing the number of stacks seems to decrease the total computational time and the number of solved instances for all policies except policies 0 and 6.

In the remainder of this section, we analyze the impact of the value of $\delta$, the unloading flexibility, and the reloading flexibility on the quality of the solutions, i.e., number of vehicles needed and routing costs. Only instances solved to proven optimality are included in this analysis. For conciseness reasons, we mostly present summarized results for two stacks only. Note that the results obtained with three stacks are similar and follow the same general trends. The overall benefits of rehandling flexibility, however, are slightly smaller for three stacks as an increased number of stacks already allows for more flexibility.

### 4.3.1 Impact of the value of $\delta$

Figures 8–10 show for each policy the impact of increasing the value of $\delta$ on the number of instances with an increase in the number of vehicles needed, on the number of instances with an increase in routing costs (only for instances with identical number of vehicles), and on the average percentage increase in routing costs (only for instances with identical number of vehicles and different routing costs), respectively. These numbers are computed by comparing, for a specific instance and a given policy, the optimal solution obtained for a given value of $\delta$ with the optimal solution obtained by setting $\delta = 0$. Policy 0 is not included in this analysis, because with policy 0 no rehandling is allowed and increasing the value of $\delta$ has no impact.

Independent of the policy, the solutions become more costly when the value of $\delta$ increases. In fact, the number of instances with more vehicles rapidly increases. With $\delta = 50$, e.g., there are over 120 instances (about 45% of the instances) for each policy with an increase in the number of vehicles needed. In almost all cases, the increase in the number of vehicles is one. For instances with identical number of vehicles, most of them have an increase of 1% to 5% in the routing costs.

### 4.3.2 Impact of minimum rehandling flexibility

In this section, we analyze the effect of going from no flexibility, i.e., policy 0, to allowing some flexibility, i.e., policy 1. The impact is depicted in Figures 11–13. They show, according to the value of $\delta$, the number of instances with an increase in the number of vehicles needed, the number of instances with an increase in routing costs (only for instances with identical number of vehicles), and the average percentage increase in routing costs (only for instances with identical number of vehicles and different routing costs), respectively. Analog figures are also used in Sections 4.3.3 and 4.3.4 to analyze the impact of different degrees of unloading and reloading flexibility, respectively.

We can see that as the value of $\delta$ increases, i.e., it becomes more time consuming to unload and reload items, the impact of the added flexibility generally decreases. For smaller values of $\delta$, it is possible to have less vehicles for more than 150 instances (with two stacks) and 50 instances (with three stacks) when going from policy 0 to policy 1. The decrease in the number of vehicles is usually

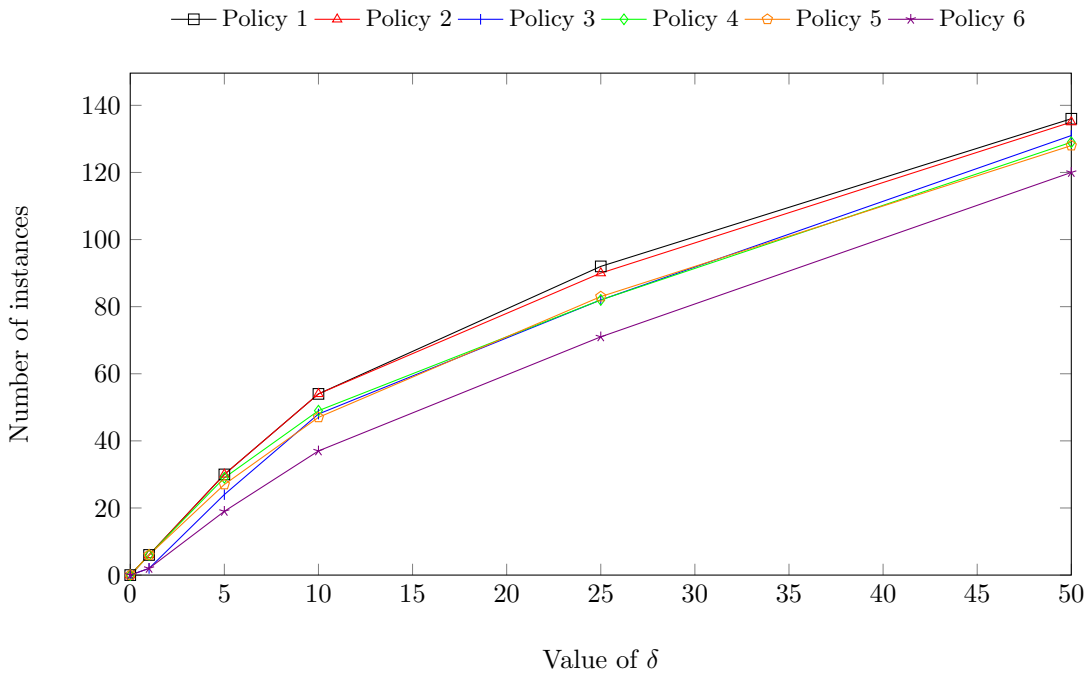



**Figure 8: Number of instances with more vehicles when increasing the value of $\delta$ (two stacks)**

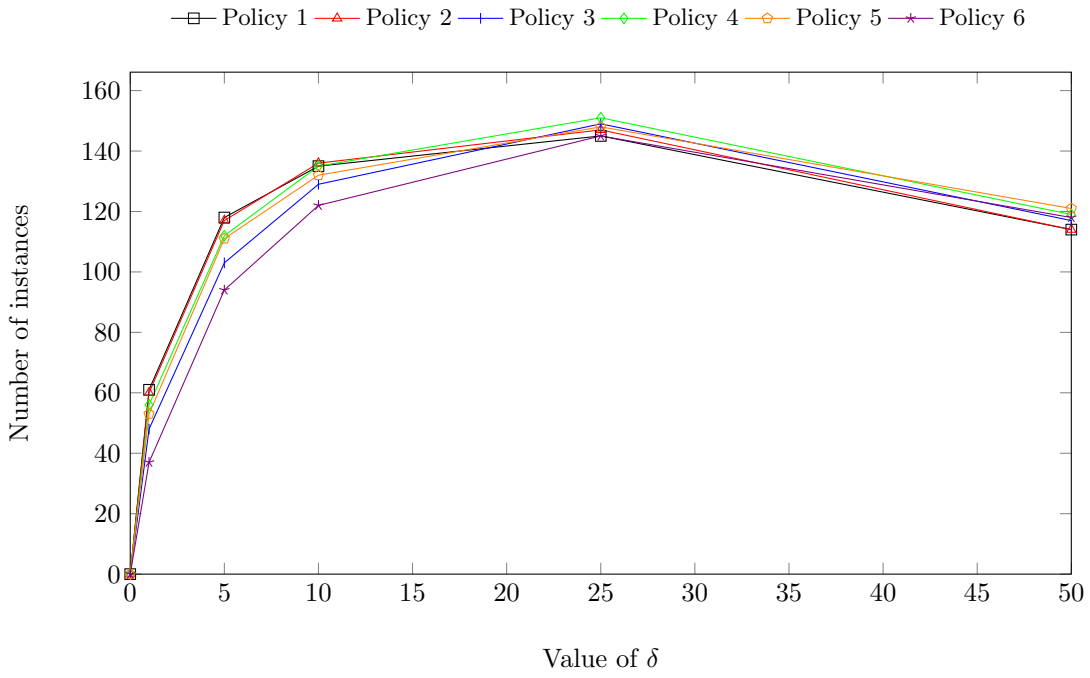



**Figure 9: Number of instances with an increase in routing costs (instances with identical number of vehicles) when increasing the value of $\delta$ (two stacks)**

of one or two. For the instances for which vehicles cannot be saved but routing costs can be decreased, the average routing costs decrease by more than 4% (two stacks) and 2% (three stacks) for all values of $\delta$. Summing up, allowing only a small degree of flexibility already has a large impact on the quality of the solutions.

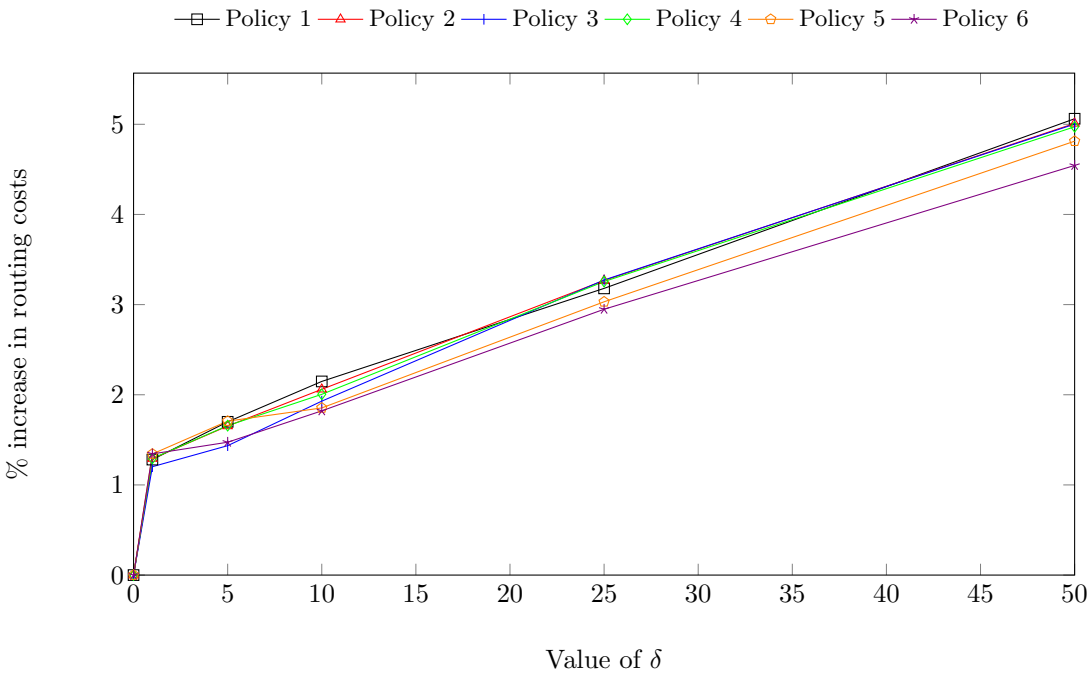



**Figure 10: Percentage increase in routing costs (instances with identical number of vehicles and different routing costs) when increasing the value of $\delta$ (two stacks)**

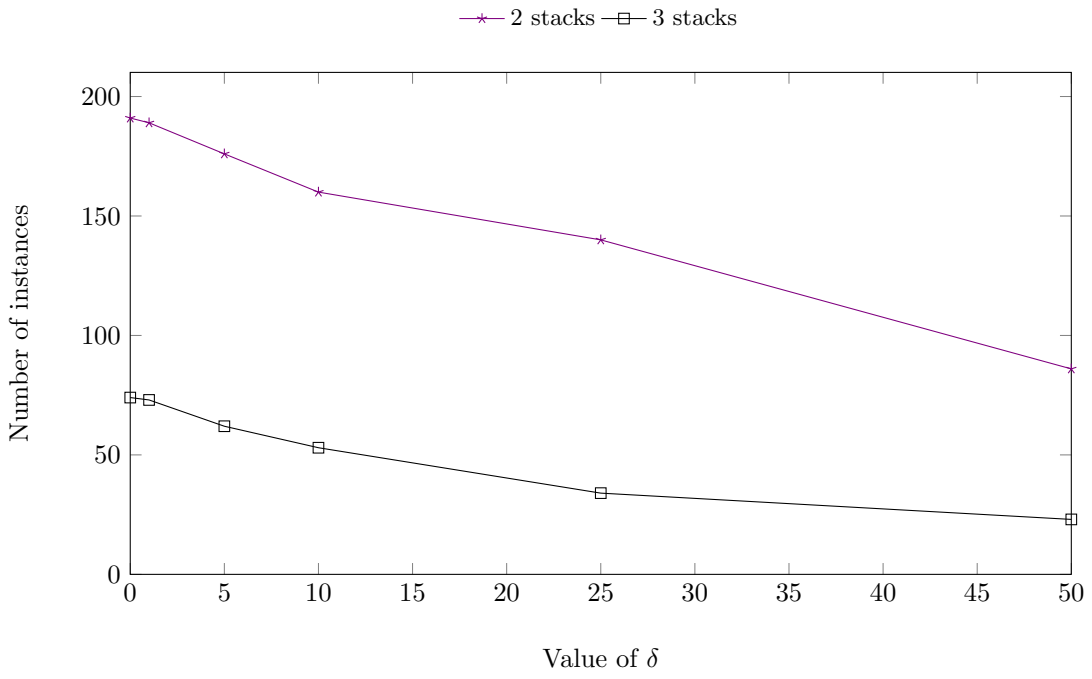



**Figure 11: Number of instances with less vehicles when going from policy 0 to policy 1**

### 4.3.3 Impact of the unloading flexibility

To analyze the impact of the unloading flexibility, we compare policies that allow the same reloading operations but different unloading operations. More precisely, Figures 14–16 summarize the comparisons of policies 1 with 2, 1 with 3, 4 with 5, and 4 with 6. We do not present a specific analysis comparing policies 2 with 3 and 5 with 6, but the results can be derived from Figures 14–16.

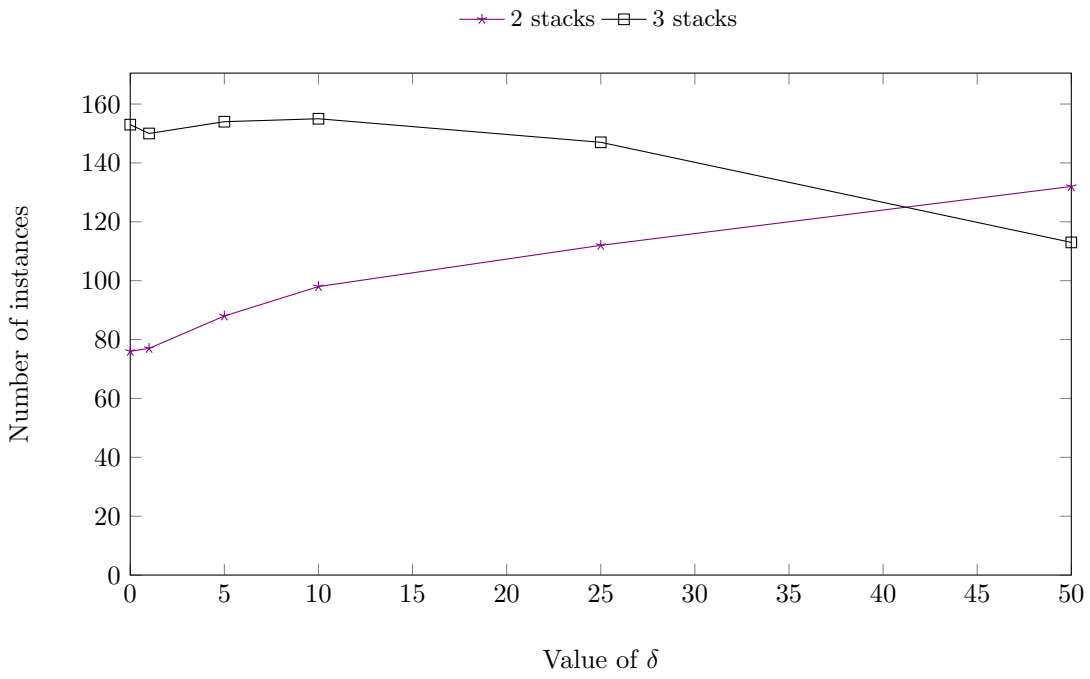



**Figure 12: Number of instances with a decrease in routing costs (instances with identical number of vehicles) when going from policy 0 to policy 1**

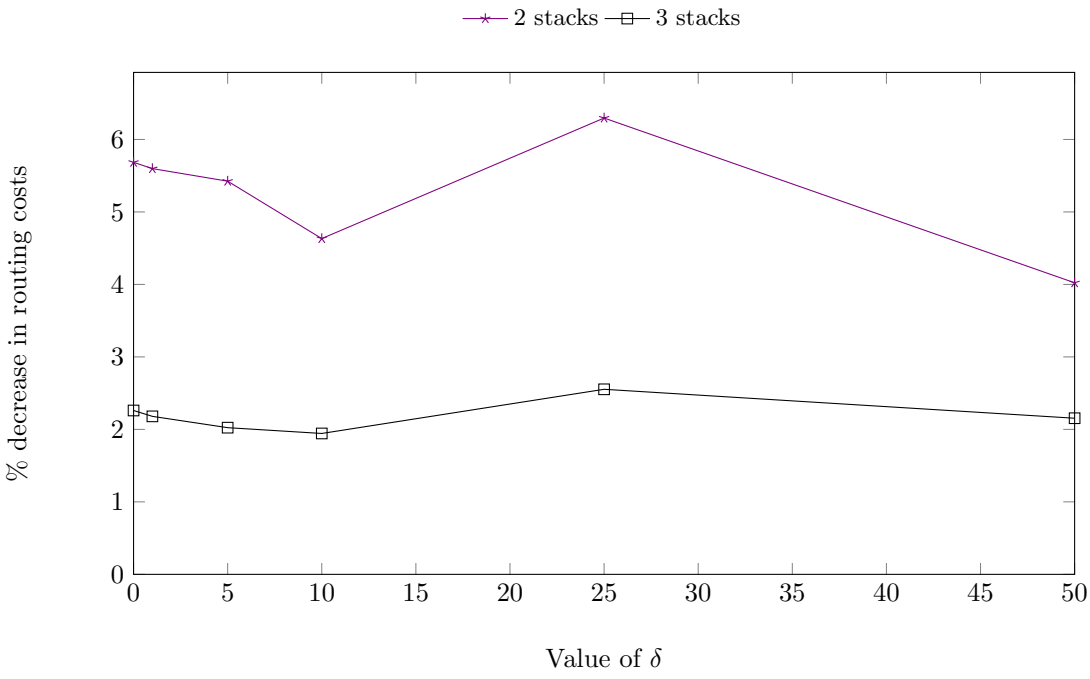



**Figure 13: Percentage decrease in routing costs (instances with identical number of vehicles and different routing costs) when going from policy 0 to policy 1**

It can be seen that the impact of allowing more unloading flexibility typically increases when increasing $\delta$. For some instances it is possible to save one vehicle as the unloading flexibility increases, but the main difference is for the routing costs which tend to decrease between 0.75% and 1.5%, reaching up to 2.5% for $\delta = 50$ and policies 1 vs. 3, when routing costs can be saved. Going from policies 1 to 2 seems to have the least effect, while the effect is greater when there is also more reloading

flexibility, i.e., comparing policies 4 with 5 and 4 with 6. We can also note that for some instances having a higher value of $\delta$ means decreasing the impact of the unloading flexibility. This can be explained by the fact that as the value of $\delta$ increases, it becomes more time consuming to unload (and reload) items.

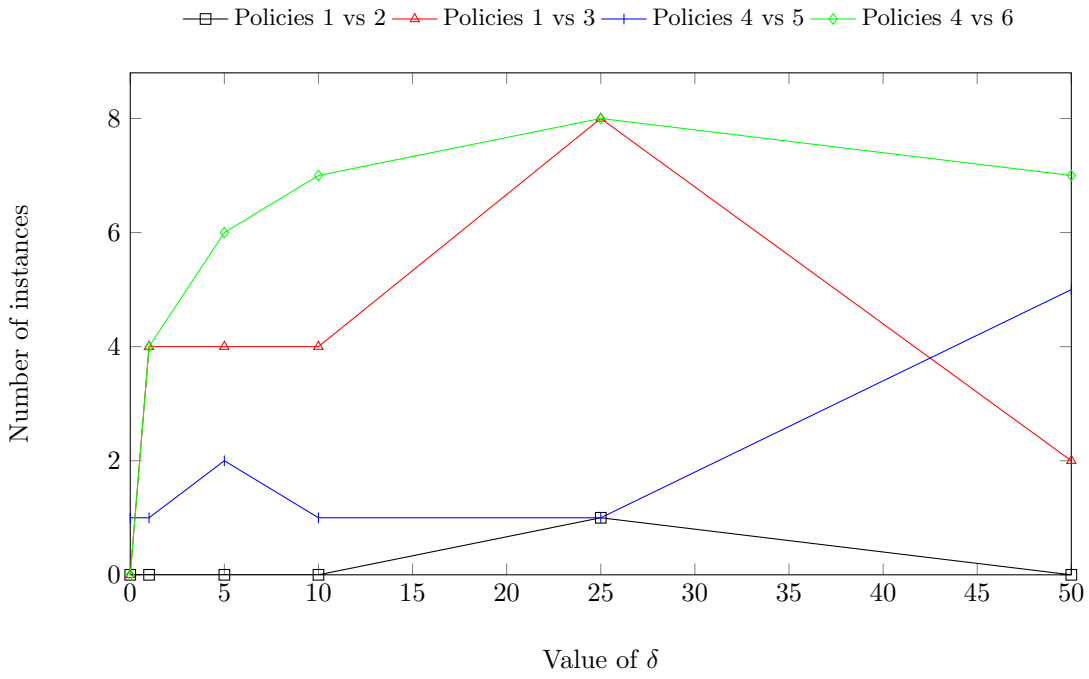



**Figure 14: Number of instances with less vehicles when allowing more unloading flexibility (two stacks)**

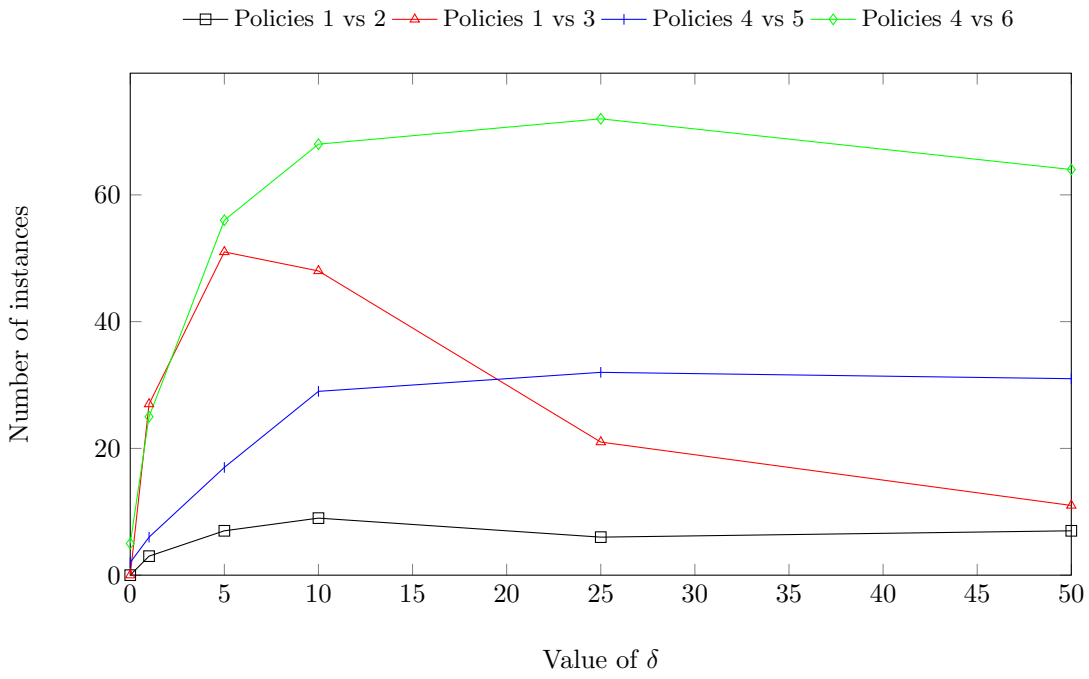



**Figure 15: Number of instances with a decrease in routing costs (instances with identical number of vehicles) when allowing more unloading flexibility (two stacks)**

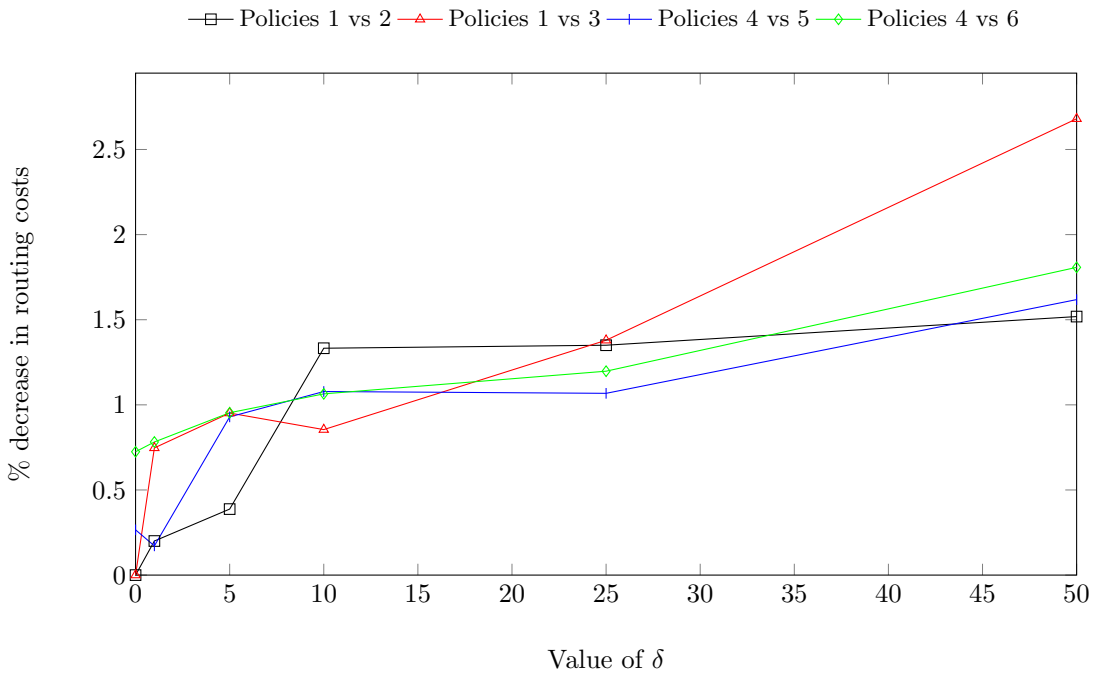



**Figure 16: Percentage decrease in routing costs (instances with identical number of vehicles and different routing costs) when allowing more unloading flexibility (two stacks)**

### 4.3.4 Impact of the reloading flexibility

In order to assess the impact of the reloading flexibility, we have compared policies 1 with 4, 2 with 5, and 3 with 6, i.e., policies allowing the same unloading operations but differing with respect to the feasible reloading operations. Summarized results are depicted in Figures 17–19. We can see that as the value of $\delta$ increases, the positive effects of additional reloading flexibility generally increase. In particular, in a few instances one vehicle can be saved. Furthermore, for the instances with identical number of vehicles and decreased routing costs, the saving in routing costs is between 0.5% for small values of $\delta$ and between 1.5% and up to 2.0% for larger values of $\delta$.

As a general trend, allowing more reloading flexibility seems to have a similar impact on the total solution cost than allowing more unloading flexibility. The biggest effect results from switching from zero rehandling to minimum rehandling flexibility, i.e., policy 1, where significant gains can be achieved in terms of both number of vehicles and routing costs. Adding additional unloading and/or reloading flexibility seems to have less impact on the total solution cost.

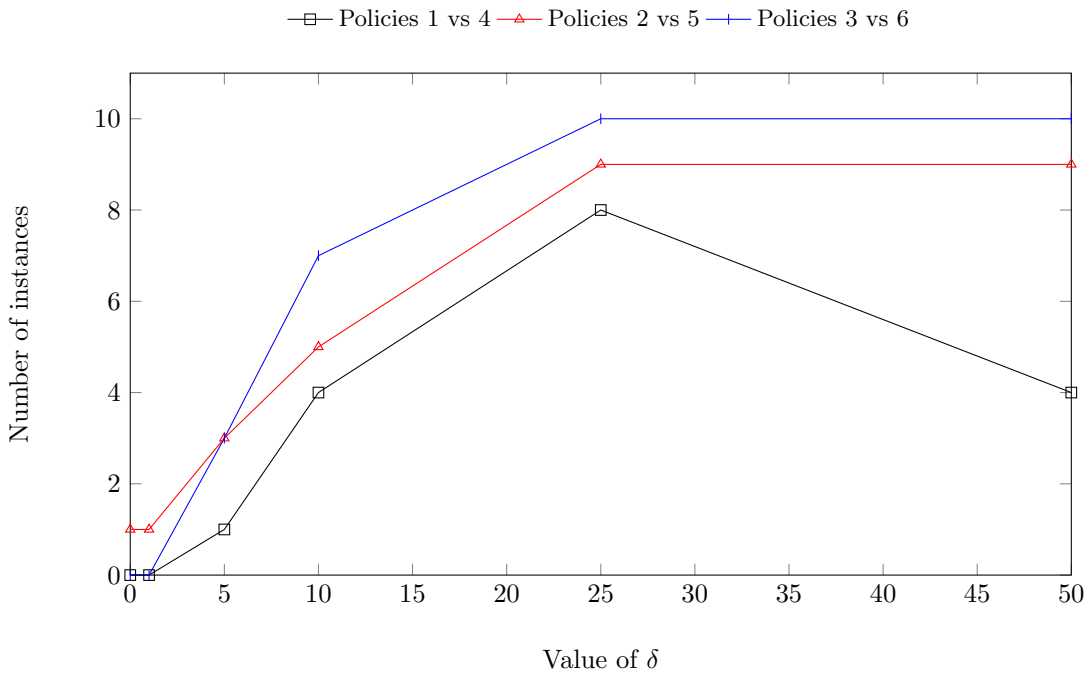



**Figure 17: Number of instances with less vehicles when allowing more loading flexibility (two stacks)**

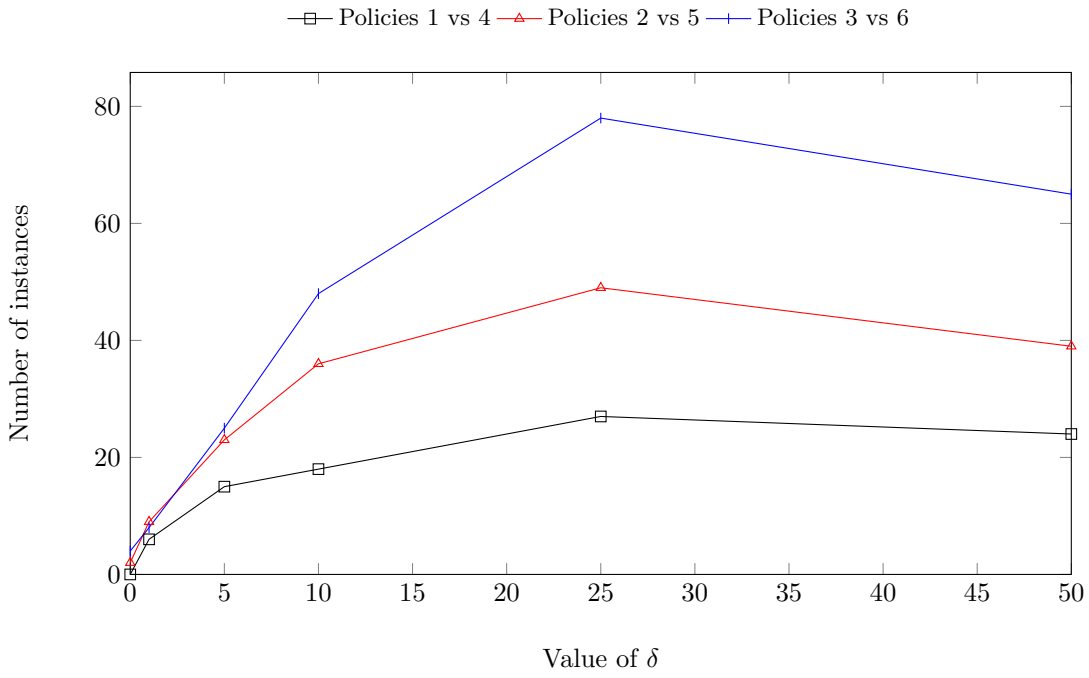



**Figure 18: Number of instances with a decrease in routing costs (instances with identical number of vehicles) when allowing more loading flexibility (two stacks)**

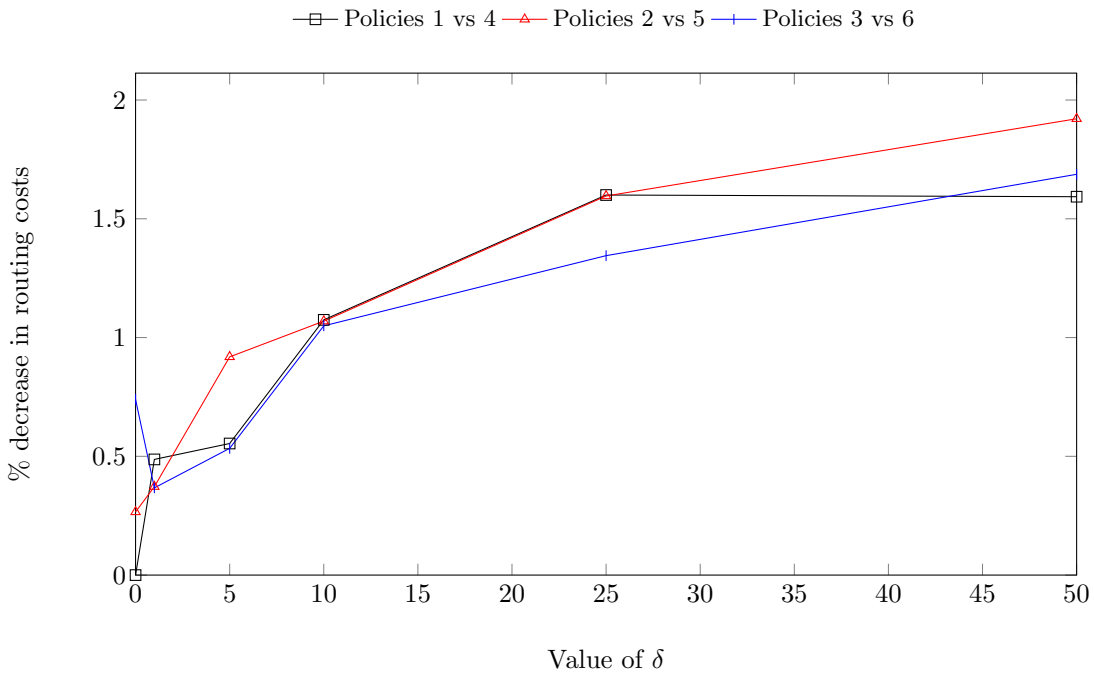



**Figure 19: Percentage decrease in routing costs (instances with identical number of vehicles and different routing costs) when allowing more loading flexibility (two stacks)**

# 5 Conclusions

In this paper, we have introduced the PDPTWMS-H, a generalization of the PDPTWMS (Cherkesly et al. 2016) and the pickup and delivery problem with time windows and handling operations (Veenstra et al. 2017a). We have proposed six handling policies which allow more (or less) unloading and reloading flexibility. Policies 1 and 4 only allow compulsory unloading, policies 2 and 5 allow preventive intra-stack unloading, and policies 3 and 6 allow preventive inter-stack unloading. In addition, policies 1, 2 and 3 only allow intra-stack reloading, i.e., unloaded items have to be reloaded in their initial stack, whereas policies 4, 5 and 6 allow inter-stack reloading, i.e., unloaded items can be reloaded in any stack.

We have developed a BPC algorithm and an *ad hoc* labeling algorithm, which can be adapted to solve the different variants of the problem. The labeling algorithm keeps track about the information of on-board items such that symmetries with respect to both stacks and item positions are reduced and stronger dominance rules can be applied. We have performed a theoretical analysis of the labeling algorithm and the number of label extensions according to the different policies to show how complex the problem becomes with the added unloading or reloading flexibilities.

An extensive computational study on PDPTWMS benchmark instances from the literature has been conducted. We have shown that our algorithm outperforms the work of Cherkesly et al. (2016) for the PDPTWMS by testing a policy where no rehandling is allowed (we set the unitary rehandling time $\delta$ to a sufficiently large value). PDPTWMS-H problems with up to 75 requests and with two and three stacks are solved to optimality within one hour of computational time for all six policies. Our computational analysis shows that, increasing the value of $\delta$ has a significant impact on the quality of the solutions, i.e., as the value of $\delta$ increases the quality of the solutions (number of vehicles and routing costs) decreases. Regarding the rehandling flexibility, we found that going from no flexibility to just a little flexibility results in a significant improvement in total solution costs. Adding additional unloading and/or reloading flexibility seems to have less impact although it generally helps to further reduce the routing costs or even the number of vehicles needed.

# Appendix A Detailed examples for the sets $RF^s(h)$ and $RT^s(h)$

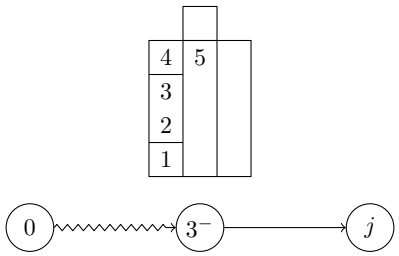



**Figure 20: Current vehicle configuration upon unloading item 3, where each item has a unitary demand and the capacity of each stack is four**

In this appendix, we provide detailed examples for the sets $RF^s(h)$ and $RT^s(h)$ and the six rehandling policies in the case $\eta(E) \in D$. Figure 20 illustrates a possible vehicle configuration upon unloading item 3, i.e., visiting node $3^-$. In this example, each item has a unitary demand and the capacity of each stack is four. In addition, item 1 is strictly on top of items 2, 3, and 4, while items 2 and 3 are at the same level and strictly on top of item 4. Let us also refer to stack number 1 as the stack currently containing items 1, 2, 3, and 4, stack number 2 as the stack containing item 5, and stack number 3 as the remaining empty stack. In the following, we detail the feasible extensions $h = ((RF^s(h))_{s\in S}, (RT^s(h))_{s\in S})$ along the arc $(\eta(E) = 3^-, j)$. Let us first define the auxiliary sets

$$
\begin{aligned}
X^{1,1} &= \emptyset, \\
X^{2,1} &= \{\{1\}, \{1,2\}\}, \\
X^{3,1} &= \{\{1\}, \{1,2\}, \{1,2,4\}\}, \\
X^{1,2} &= \{\emptyset, \{5\}\}, \\
X^{1,3} &= \emptyset.
\end{aligned}
$$

We now present the feasible extensions policy by policy.

**Policy 1.** In policy 1, there is exactly one extension:

| | Unloaded items | | | Reloaded items | | |
|---|---|---|---|---|---|---|
| # | $RF^1_{d_1}(h)$ | $RF^2_{d_1}(h)$ | $RF^3_{d_1}(h)$ | $RT^1_{d_1}(h)$ | $RT^2_{d_1}(h)$ | $RT^3_{d_1}(h)$ |
| 1 | $\{1\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\emptyset$ | $\emptyset$ |

**Policy 2.** In policy 2, there are the following 3 extensions:

| | Unloaded items | | | Reloaded items | | |
|---|---|---|---|---|---|---|
| # | $RF^1_{d_2}(h)$ | $RF^2_{d_2}(h)$ | $RF^3_{d_2}(h)$ | $RT^1_{d_2}(h)$ | $RT^2_{d_2}(h)$ | $RT^3_{d_2}(h)$ |
| 1 | $\{1\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\emptyset$ | $\emptyset$ |
| 2 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\{1,2\}$ | $\emptyset$ | $\emptyset$ |
| 3 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ |

**Policy 3.** In policy 3, there are the following 6 extensions:

| | Unloaded items | | | Reloaded items | | |
|---|---|---|---|---|---|---|
| # | $RF^1_{d_3}(h)$ | $RF^2_{d_3}(h)$ | $RF^3_{d_3}(h)$ | $RT^1_{d_3}(h)$ | $RT^2_{d_3}(h)$ | $RT^3_{d_3}(h)$ |
| 1 | $\{1\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\emptyset$ | $\emptyset$ |
| 2 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\{1,2\}$ | $\emptyset$ | $\emptyset$ |
| 3 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ |
| 4 | $\{1\}$ | $\{5\}$ | $\emptyset$ | $\{1\}$ | $\{5\}$ | $\emptyset$ |
| 5 | $\{1,2\}$ | $\{5\}$ | $\emptyset$ | $\{1,2\}$ | $\{5\}$ | $\emptyset$ |
| 6 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ |

**Policy 4.** In policy 4, there are the following 3 extensions:

| | Unloaded items | | | Reloaded items | | |
|---|---|---|---|---|---|---|
| # | $RF^1_{d_1}(h)$ | $RF^2_{d_1}(h)$ | $RF^3_{d_1}(h)$ | $RT^1(h)$ | $RT^2(h)$ | $RT^3(h)$ |
| 1 | $\{1\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\emptyset$ | $\emptyset$ |
| 2 | $\{1\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\emptyset$ |
| 3 | $\{1\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1\}$ |

**Policy 5.** In policy 5, there are the following 26 extensions:

| | Unloaded items | | | Reloaded items | | |
|---|---|---|---|---|---|---|
| # | $RF^1_{d_2}(h)$ | $RF^2_{d_2}(h)$ | $RF^3_{d_2}(h)$ | $RT^1(h)$ | $RT^2(h)$ | $RT^3(h)$ |
| 1 | $\{1\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\emptyset$ | $\emptyset$ |
| 2 | $\{1\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\emptyset$ |
| 3 | $\{1\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1\}$ |
| 4 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\{1,2\}$ | $\emptyset$ | $\emptyset$ |
| 5 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1,2\}$ | $\emptyset$ |
| 6 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1,2\}$ |
| 7 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\{2\}$ | $\emptyset$ |
| 8 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\emptyset$ | $\{2\}$ |
| 9 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\{2\}$ | $\{1\}$ | $\emptyset$ |
| 10 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\{2\}$ | $\emptyset$ | $\{1\}$ |
| 11 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\{2\}$ |
| 12 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{2\}$ | $\{1\}$ |
| 13 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ |
| 14 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1,2\}$ | $\{4\}$ | $\emptyset$ |
| 15 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1,2\}$ | $\emptyset$ | $\{4\}$ |
| 16 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1,4\}$ | $\{2\}$ | $\emptyset$ |
| 17 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1,4\}$ | $\emptyset$ | $\{2\}$ |
| 18 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{2,4\}$ | $\{1\}$ | $\emptyset$ |
| 19 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{2,4\}$ | $\emptyset$ | $\{1\}$ |
| 20 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\{2,4\}$ | $\emptyset$ |
| 21 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\{2\}$ | $\{4\}$ |
| 22 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\{4\}$ | $\{2\}$ |
| 23 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{2\}$ | $\{1,4\}$ | $\emptyset$ |
| 24 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{2\}$ | $\{1\}$ | $\{4\}$ |
| 25 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{4\}$ | $\{1,2\}$ | $\emptyset$ |
| 26 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1,2,4\}$ | $\emptyset$ |

**Policy 6.** In policy 6, there are the following 55 extensions:

| | Unloaded items | | | Reloaded items | | |
|---|---|---|---|---|---|---|
| # | $RF^1_{d_3}(h)$ | $RF^2_{d_3}(h)$ | $RF^3_{d_3}(h)$ | $RT^1(h)$ | $RT^2(h)$ | $RT^3(h)$ |
| 1 | $\{1\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\emptyset$ | $\emptyset$ |
| 2 | $\{1\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\emptyset$ |
| 3 | $\{1\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1\}$ |
| 4 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\{1,2\}$ | $\emptyset$ | $\emptyset$ |
| 5 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1,2\}$ | $\emptyset$ |
| 6 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1,2\}$ |
| 7 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\{2\}$ | $\emptyset$ |
| 8 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\emptyset$ | $\{2\}$ |
| 9 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\{2\}$ | $\{1\}$ | $\emptyset$ |
| 10 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\{2\}$ | $\emptyset$ | $\{1\}$ |
| 11 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\{2\}$ |
| 12 | $\{1,2\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{2\}$ | $\{1\}$ |
| 13 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ |
| 14 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1,2\}$ | $\{4\}$ | $\emptyset$ |
| 15 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1,2\}$ | $\emptyset$ | $\{4\}$ |
| 16 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1,4\}$ | $\{2\}$ | $\emptyset$ |
| 17 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1,4\}$ | $\emptyset$ | $\{2\}$ |
| 18 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{2,4\}$ | $\{1\}$ | $\emptyset$ |
| 19 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{2,4\}$ | $\emptyset$ | $\{1\}$ |
| 20 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\{2,4\}$ | $\emptyset$ |
| 21 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\{2\}$ | $\{4\}$ |
| 22 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{1\}$ | $\{4\}$ | $\{2\}$ |
| 23 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{2\}$ | $\{1,4\}$ | $\emptyset$ |
| 24 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{2\}$ | $\{1\}$ | $\{4\}$ |
| 25 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\{4\}$ | $\{1,2\}$ | $\emptyset$ |
| 26 | $\{1,2,4\}$ | $\emptyset$ | $\emptyset$ | $\emptyset$ | $\{1,2,4\}$ | $\emptyset$ |
| 27 | $\{1\}$ | $\{5\}$ | $\emptyset$ | $\{1,5\}$ | $\emptyset$ | $\emptyset$ |
| 28 | $\{1\}$ | $\{5\}$ | $\emptyset$ | $\{1\}$ | $\{5\}$ | $\emptyset$ |
| 29 | $\{1\}$ | $\{5\}$ | $\emptyset$ | $\{5\}$ | $\{1\}$ | $\emptyset$ |
| 30 | $\{1\}$ | $\{5\}$ | $\emptyset$ | $\emptyset$ | $\{1,5\}$ | $\emptyset$ |
| 31 | $\{1,2\}$ | $\{5\}$ | $\emptyset$ | $\{1,2,5\}$ | $\emptyset$ | $\emptyset$ |
| 32 | $\{1,2\}$ | $\{5\}$ | $\emptyset$ | $\{1,2\}$ | $\{5\}$ | $\emptyset$ |
| 33 | $\{1,2\}$ | $\{5\}$ | $\emptyset$ | $\{1,5\}$ | $\{2\}$ | $\emptyset$ |
| 34 | $\{1,2\}$ | $\{5\}$ | $\emptyset$ | $\{2,5\}$ | $\{1\}$ | $\emptyset$ |
| 35 | $\{1,2\}$ | $\{5\}$ | $\emptyset$ | $\{1\}$ | $\{2,5\}$ | $\emptyset$ |
| 36 | $\{1,2\}$ | $\{5\}$ | $\emptyset$ | $\{1\}$ | $\{2\}$ | $\{5\}$ |
| 37 | $\{1,2\}$ | $\{5\}$ | $\emptyset$ | $\{2\}$ | $\{1,5\}$ | $\emptyset$ |
| 38 | $\{1,2\}$ | $\{5\}$ | $\emptyset$ | $\{2\}$ | $\{1\}$ | $\{5\}$ |
| 39 | $\{1,2\}$ | $\{5\}$ | $\emptyset$ | $\{5\}$ | $\{1,2\}$ | $\emptyset$ |
| 40 | $\{1,2\}$ | $\{5\}$ | $\emptyset$ | $\{5\}$ | $\{1\}$ | $\{2\}$ |
| 41 | $\{1,2\}$ | $\{5\}$ | $\emptyset$ | $\emptyset$ | $\{1,2,5\}$ | $\emptyset$ |
| 42 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{1,2,4,5\}$ | $\emptyset$ | $\emptyset$ |
| 43 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ |
| 44 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{1,2,5\}$ | $\{4\}$ | $\emptyset$ |
| 45 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{1,4,5\}$ | $\{2\}$ | $\emptyset$ |
| 46 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{2,4,5\}$ | $\{1\}$ | $\emptyset$ |
| 47 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{1,2\}$ | $\{4,5\}$ | $\emptyset$ |
| 48 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{1,2\}$ | $\{4\}$ | $\{5\}$ |
| 49 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{1,4\}$ | $\{2,5\}$ | $\emptyset$ |
| 50 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{1,4\}$ | $\{2\}$ | $\{5\}$ |
| 51 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{1,5\}$ | $\{2,4\}$ | $\emptyset$ |
| 52 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{1,5\}$ | $\{2\}$ | $\{4\}$ |
| 53 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{2,4\}$ | $\{1\}$ | $\{5\}$ |
| 54 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{2,5\}$ | $\{1\}$ | $\{4\}$ |
| 55 | $\{1,2,4\}$ | $\{5\}$ | $\emptyset$ | $\{4,5\}$ | $\{1\}$ | $\{2\}$ |

# Appendix B Detailed computational results for the PDPTWMS

Table 6 presents detailed computational results for the PDPTWMS. The first column presents the number of nodes (*Nodes*) in the instance, and the second and seventh columns present the name of the instance (*Inst.*). For each instance, we present the following information according to the number of stacks: the optimal solution value ($z^*$), and the total computational time in seconds to solve the instance (*Sec.*). An entry "–" indicates that the instance has not been solved within the prescribed time limit of 3600 seconds.

**Table 6: Detailed computational results for the PDPTWMS**

| | | Two stacks | | Three stacks | | | Two stacks | | Three stacks | |
|---|---|---|---|---|---|---|---|---|---|---|
| Nodes | Inst. | $z^*$ | Sec. | $z^*$ | Sec. | Inst. | $z^*$ | Sec. | $z^*$ | Sec. |
| 51 | a280-c12-w15-500-1000 | 804,506.0 | 1 | 704,424.6 | 0 | a280-c12-w15-1000-1200 | 904,616.6 | 0 | 804,354.2 | 0 |
| 61 | | 905,317.8 | 1 | 905,043.7 | 1 | | 905,305.3 | 1 | 804,876.2 | 0 |
| 71 | | 1,006,319.9 | 1 | 905,917.6 | 3 | | 1,005,845.0 | 1 | 906,910.2 | 1 |
| 81 | | 1,307,681.0 | 1 | 1,307,786.1 | 4 | | 1,208,065.6 | 3 | 1,207,431.7 | 2 |
| 91 | | 1,308,469.3 | 6 | 1,308,336.7 | 21 | | 1,209,279.1 | 4 | 1,208,755.0 | 4 |
| 101 | | 1,611,816.8 | 2 | 1,510,667.2 | 5 | | 1,310,248.6 | 15 | 1,209,308.7 | 9 |
| 111 | | 1,812,796.2 | 3 | 1,712,128.6 | 1 | | 1,311,126.2 | 48 | 1,210,475.6 | 24 |
| 121 | | 1,712,383.9 | 63 | 1,611,520.9 | 17 | | 1,209,965.4 | 20 | 1,109,911.1 | 232 |
| 131 | | 1,813,249.1 | 82 | 1,712,233.4 | 67 | | 1,512,877.4 | 608 | 1,412,240.2 | 144 |
| 141 | | 2,014,118.9 | 25 | 1,913,410.5 | 19 | | 1,913,702.2 | 37 | 1,713,062.8 | 6 |
| 151 | | 2,215,602.3 | 8 | 2,015,358.4 | 75 | | – | – | 1,614,370.8 | 320 |
| 51 | a280-c12-w15-1500-2000 | 603,995.4 | 4 | 503,814.4 | 1 | a280-c12-w30-500-1000 | 704,319.4 | 1 | 604,267.6 | 0 |
| 61 | | 605,570.0 | 4 | 604,889.8 | 2 | | 905,162.1 | 5 | 804,538.1 | 5 |
| 71 | | 805,775.3 | 24 | 805,232.6 | 30 | | 1,106,008.5 | 3 | 905,704.9 | 8 |
| 81 | | 906,453.9 | 9 | 906,400.0 | 18 | | 1,107,899.7 | 7 | 1,107,021.3 | 73 |
| 91 | | 908,308.6 | 68 | 808,044.4 | 67 | | 1,309,579.2 | 24 | 1,208,022.2 | 14 |
| 101 | | 909,507.7 | 672 | 908,995.7 | 472 | | 1,410,052.0 | 8 | 1,309,392.8 | 36 |
| 111 | | – | – | – | – | | 1,510,445.9 | 227 | 1,310,275.9 | 273 |
| 121 | | 1,210,362.3 | 1420 | 1,110,343.3 | 3492 | | 1,611,448.0 | 2130 | 1,510,585.6 | 360 |
| 131 | | 1,311,114.0 | 1104 | – | – | | – | – | 1,511,080.6 | 2387 |
| 141 | | – | – | – | – | | 1,713,294.3 | 1511 | 1,612,884.8 | 57 |
| 151 | | – | – | – | – | | 1,713,378.4 | 3082 | 1,612,741.3 | 1185 |
| 51 | a280-c12-w30-1000-1200 | 704,324.0 | 0 | 704,324.0 | 0 | a280-c12-w30-1500-2000 | 503,914.6 | 4 | 503,573.6 | 12 |
| 61 | | 704,686.9 | 1 | 704,338.4 | 1 | | 505,504.5 | 6 | 504,708.6 | 13 |
| 71 | | 906,094.6 | 1 | 806,079.9 | 7 | | 805,654.7 | 12 | 705,468.3 | 57 |
| 81 | | 1,008,098.3 | 2 | 1,006,878.0 | 2 | | 707,568.8 | 13 | 706,655.5 | 117 |
| 91 | | 1,208,357.4 | 7 | 1,107,908.4 | 20 | | 807,307.2 | 288 | 706,974.6 | 780 |
| 101 | | 1,210,282.3 | 2 | 1,109,226.8 | 14 | | – | – | – | – |
| 111 | | 1,311,048.1 | 44 | 1,210,549.5 | 28 | | 910,182.9 | 349 | 810,458.1 | 311 |
| 121 | | – | – | 1,410,917.4 | 152 | | 1,110,198.0 | 2190 | – | – |
| 131 | | 1,310,717.4 | 203 | – | – | | – | – | – | – |
| 141 | | 1,512,917.0 | 25 | 1,411,699.4 | 2153 | | – | – | – | – |
| 151 | | 1,613,265.9 | 406 | 1,512,108.9 | 2793 | | – | – | – | – |

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Table 6 – *Continued from previous page*

| | | Two stacks | | Three stacks | | | Two stacks | | Three stacks | |
|---|---|---|---|---|---|---|---|---|---|---|
| Nodes | Inst. | $z^*$ | Sec. | $z^*$ | Sec. | Inst. | $z^*$ | Sec. | $z^*$ | Sec. |
| 51 | a280-c12-w45-500-1000 | 703,927.3 | 1 | 604,419.2 | 1 | a280-c12-w45-1000-1200 | 703,894.6 | 1 | 703,880.0 | 1 |
| 61 | | 804,639.1 | 48 | 704,438.7 | 191 | | 704,350.5 | 5 | 603,773.0 | 3 |
| 71 | | 806,421.4 | 9 | 805,444.9 | 88 | | 705,809.2 | 3 | 705,150.6 | 6 |
| 81 | | 1,007,186.0 | 83 | 907,002.6 | 151 | | 806,929.7 | 11 | 806,567.3 | 15 |
| 91 | | 1,007,875.7 | 454 | 1,007,065.2 | 355 | | 1,007,973.4 | 28 | 907,833.7 | 10 |
| 101 | | – | – | 1,209,187.9 | 319 | | 1,209,618.4 | 620 | 1,108,782.9 | 221 |
| 111 | | – | – | – | – | | – | – | – | – |
| 121 | | – | – | – | – | | – | – | – | – |
| 131 | | – | – | 1,410,177.7 | 2302 | | – | – | – | – |
| 141 | | 1,713,801.9 | 544 | 1,612,448.9 | 719 | | – | – | – | – |
| 151 | | – | – | – | – | | – | – | – | – |
| 51 | a280-c12-w45-1500-2000 | 504,155.1 | 16 | 503,496.3 | 2 | brd14051-c12-w45-3000-4000 | 1,531,410.9 | 1 | 1,429,426.2 | 0 |
| 61 | | 704,677.7 | 12 | 604,088.7 | 8 | | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| 71 | | 705,136.7 | 68 | 604,962.3 | 1043 | | 1,537,544.2 | 0 | 1,437,431.0 | 1 |
| 81 | | 706,828.1 | 281 | 607,006.4 | 70 | | 1,540,031.8 | 12 | 1,336,496.4 | 10 |
| 91 | | 809,325.3 | 14 | 806,792.8 | 77 | | 1,955,017.4 | 2 | 1,852,600.3 | 1 |
| 101 | | – | – | – | – | | 1,851,371.9 | 1 | 1,749,978.8 | 1 |
| 111 | | 909,514.4 | 274 | – | – | | 2,052,597.8 | 1 | 2,052,469.4 | 2 |
| 121 | | – | – | – | – | | 2,159,807.4 | 6 | 2,057,355.6 | 33 |
| 131 | | – | – | – | – | | 2,777,928.5 | 1 | 2,677,706.6 | 1 |
| 141 | | – | – | – | – | | 2,572,918.4 | 4 | 2,469,684.4 | 2 |
| 151 | | – | – | – | – | | 2,771,634.9 | 8 | 2,668,893.6 | 514 |
| 51 | brd14051-c12-w60-3000-4000 | 1,329,051.2 | 0 | 1,228,636.6 | 0 | brd14051-c12-w75-3000-4000 | 1,125,898.8 | 0 | 1,025,843.4 | 1 |
| 61 | | 1,332,066.6 | 1 | 1,230,492.4 | 0 | | 1,437,288.2 | 0 | 1,336,738.4 | 40 |
| 71 | | 1,438,022.8 | 1 | 1,435,777.8 | 1 | | 1,436,361.4 | 1 | 1,435,375.6 | 5 |
| 81 | | 1,840,955.3 | 1 | 1,639,743.2 | 0 | | 1,640,267.3 | 1 | 1,640,034.5 | 1 |
| 91 | | 1,641,815.5 | 1 | 1,641,226.3 | 1 | | 1,642,764.6 | 1 | 1,540,176.5 | 2 |
| 101 | | 2,049,700.2 | 4 | 1,847,898.8 | 1 | | 1,954,257.7 | 1 | 1,852,282.5 | 40 |
| 111 | | 1,748,146.9 | 19 | 1,645,837.7 | 2 | | 2,056,418.0 | 16 | 1,852,875.8 | 3 |
| 121 | | 2,672,736.5 | 1 | 2,466,878.7 | 3 | | 2,160,328.4 | 2 | 1,955,880.2 | 1 |
| 131 | | 2,573,303.0 | 1 | 2,470,949.2 | 1 | | 2,371,433.9 | 3 | 2,167,641.1 | 1 |
| 141 | | 2,365,317.3 | 13 | 2,263,935.8 | 5 | | – | – | 1,851,983.0 | 33 |
| 151 | | 2,571,221.2 | 21 | 2,470,259.0 | 7 | | 2,264,208.1 | 17 | 2,056,824.6 | 9 |
| 51 | brd14051-c12-w90-3000-4000 | 1,227,740.0 | 0 | 1,227,396.1 | 0 | brd14051-c12-w120-3000-4000 | 1,226,569.5 | 3 | 1,124,620.7 | 0 |
| 61 | | 1,233,437.0 | 0 | 1,131,544.6 | 0 | | 1,233,119.2 | 0 | 1,131,676.1 | 0 |
| 71 | | 1,431,668.3 | 1 | 1,331,555.1 | 1 | | 1,335,646.5 | 4 | 1,234,087.8 | 1 |
| 81 | | 1,539,378.0 | 1 | 1,438,543.2 | 1 | | 1,435,157.0 | 6 | 1,435,123.4 | 26 |
| 91 | | 1,842,456.4 | 1 | 1,842,416.9 | 1 | | 1,645,373.6 | 1 | 1,542,815.8 | 1 |
| 101 | | 1,853,549.1 | 1 | 1,753,149.5 | 1 | | 1,850,881.6 | 2 | 1,850,093.8 | 2 |
| 111 | | 1,646,220.5 | 93 | 1,543,281.4 | 4 | | 1,643,122.7 | 258 | 1,540,459.3 | 5 |
| 121 | | 2,159,959.3 | 178 | 2,057,762.9 | 24 | | 1,855,649.8 | 3 | 1,851,498.7 | 4 |
| 131 | | 2,376,335.1 | 519 | 2,167,081.2 | 3 | | 2,161,618.1 | 17 | 1,959,300.7 | 48 |
| 141 | | 2,461,503.9 | 674 | 2,256,817.4 | 3 | | 2,055,945.8 | 24 | 1,955,932.0 | 506 |
| 151 | | 2,060,144.9 | 7 | 1,959,127.3 | 134 | | 2,156,504.5 | 111 | – | – |

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Table 6 – *Continued from previous page*

| | | Two stacks | | Three stacks | | | Two stacks | | Three stacks | |
|---|---|---|---|---|---|---|---|---|---|---|
| Nodes | Inst. | $z^*$ | Sec. | $z^*$ | Sec. | Inst. | $z^*$ | Sec. | $z^*$ | Sec. |
| 51 | d18512-c12-w45-3000-4000 | 1,335,180.8 | 0 | 1,334,830.1 | 0 | d18512-c12-w60-3000-4000 | 1,334,087.9 | 0 | 1,234,237.1 | 0 |
| 61 | | 1,434,166.1 | 0 | 1,434,275.9 | 1 | | 1,231,573.6 | 69 | 1,129,637.7 | 47 |
| 71 | | 1,538,730.0 | 11 | 1,435,207.5 | 2 | | 1,434,784.8 | 16 | 1,332,573.3 | 0 |
| 81 | | 1,438,442.4 | 1 | 1,335,807.3 | 0 | | 1,540,642.3 | 1 | 1,443,167.3 | 1 |
| 91 | | 1,847,276.9 | 147 | – | – | | 1,848,432.4 | 2 | 1,746,583.0 | 1 |
| 101 | | 1,847,942.4 | 2 | 1,747,913.3 | 1 | | 1,951,554.7 | 1 | 1,950,489.9 | 1 |
| 111 | | 2,060,958.7 | 1 | 2,057,507.9 | 5 | | 2,161,620.2 | 1 | 2,161,004.7 | 5 |
| 121 | | 2,569,659.9 | 2 | 2,467,387.0 | 1 | | 2,470,229.4 | 1 | 2,369,463.5 | 1 |
| 131 | | 2,365,416.9 | 3 | 2,364,495.2 | 5 | | 2,263,993.3 | 3 | 2,163,246.2 | 5 |
| 141 | | 2,670,087.8 | 2 | 2,470,199.4 | 2 | | 2,262,080.3 | 321 | 2,060,226.7 | 431 |
| 151 | | 2,568,451.8 | 8 | 2,365,163.4 | 4 | | 2,573,355.2 | 4 | 2,571,095.3 | 30 |
| 51 | d18512-c12-w75-3000-4000 | 1,231,921.1 | 1 | 1,129,919.7 | 0 | d18512-c12-w90-3000-4000 | 1,027,666.9 | 0 | 1,026,880.0 | 0 |
| 61 | | 1,131,867.5 | 0 | 1,131,833.1 | 1 | | 1,230,407.4 | 70 | 1,230,401.8 | 228 |
| 71 | | 1,436,176.8 | 0 | 1,435,031.2 | 0 | | 1,231,286.5 | 3 | 1,231,027.9 | 1 |
| 81 | | 1,842,956.1 | 0 | 1,741,332.4 | 0 | | 1,438,432.7 | 1 | 1,438,248.6 | 1 |
| 91 | | 1,638,060.9 | 6 | 1,537,494.6 | 2 | | 1,844,769.3 | 1 | 1,845,073.0 | 1 |
| 101 | | 1,643,810.4 | 13 | 1,643,606.6 | 69 | | 1,645,106.1 | 2 | 1,643,510.0 | 1 |
| 111 | | 1,856,505.7 | 2 | 1,854,577.6 | 5 | | 2,054,160.1 | 2 | 1,951,323.1 | 1 |
| 121 | | 2,267,465.7 | 4 | 2,162,914.8 | 2 | | 2,261,568.5 | 190 | 2,059,560.5 | 4 |
| 131 | | 2,260,569.7 | 52 | 2,156,813.5 | 5 | | 2,158,286.0 | 2 | 2,056,203.4 | 152 |
| 141 | | 2,462,356.4 | 10 | 2,257,055.7 | 4 | | 2,059,392.5 | 91 | 1,956,423.6 | 9 |
| 151 | | 2,267,620.1 | 23 | 2,165,968.5 | 39 | | – | – | 2,467,968.3 | 25 |
| 51 | d18512-c12-w120-3000-4000 | 1,130,987.6 | 0 | 1,130,584.3 | 0 | fnl4461-c12-w45-3000-4000 | 916,176.0 | 2 | 714,979.7 | 0 |
| 61 | | 1,133,544.7 | 0 | 1,131,742.3 | 1 | | 1,219,706.7 | 0 | 1,219,256.5 | 1 |
| 71 | | 1,332,740.5 | 3 | 1,229,392.2 | 1 | | 1,018,739.8 | 2 | 918,301.7 | 2 |
| 81 | | 1,335,303.6 | 3 | 1,233,493.8 | 2 | | 1,021,741.8 | 7 | 921,221.2 | 3 |
| 91 | | 1,541,946.8 | 1 | 1,541,742.4 | 2 | | 1,123,735.9 | 40 | 1,021,382.2 | 3 |
| 101 | | 1,646,728.7 | 4 | 1,545,265.4 | 2 | | 1,429,373.8 | 14 | 1,327,640.2 | 15 |
| 111 | | 1,753,358.9 | 30 | 1,751,009.7 | 4 | | 1,531,580.8 | 18 | 1,329,326.8 | 2 |
| 121 | | 2,268,283.9 | 2 | 1,961,979.0 | 2 | | 1,634,709.4 | 276 | 1,434,892.7 | 27 |
| 131 | | 1,854,151.5 | 3 | – | – | | 1,741,089.4 | 65 | 1,638,724.8 | 143 |
| 141 | | 2,158,233.3 | 59 | 1,956,834.1 | 106 | | 1,942,579.8 | 98 | 1,740,636.5 | 17 |
| 151 | | 2,364,480.4 | 1524 | 2,161,196.8 | 10 | | 1,841,309.7 | 22 | 1,638,897.4 | 45 |
| 51 | fnl4461-c12-w60-3000-4000 | 716,980.2 | 0 | 715,291.2 | 1 | fnl4461-c12-w75-3000-4000 | 814,584.3 | 1 | 714,577.2 | 0 |
| 61 | | 817,360.8 | 1 | 816,053.3 | 1 | | 916,909.4 | 4 | 815,999.3 | 2 |
| 71 | | 1,019,522.6 | 8 | 820,385.6 | 8 | | 919,610.7 | 2 | 918,376.5 | 4 |
| 81 | | 1,023,364.4 | 3 | 922,909.3 | 3 | | 1,021,033.0 | 3 | 919,530.9 | 3 |
| 91 | | 1,122,369.2 | 4 | 1,021,321.7 | 4 | | 1,123,469.3 | 15 | 1,023,901.3 | 11 |
| 101 | | 1,227,529.7 | 3 | 1,126,184.9 | 10 | | 1,327,241.5 | 2 | 1,225,904.1 | 36 |
| 111 | | 1,430,500.7 | 3 | 1,330,115.0 | 29 | | 1,230,417.4 | 51 | 1,131,000.6 | 37 |
| 121 | | 1,432,346.6 | 35 | 1,330,781.0 | 98 | | 1,532,830.0 | 54 | 1,432,617.4 | 365 |
| 131 | | 1,644,565.4 | 26 | 1,539,453.5 | 47 | | 1,535,334.5 | 62 | 1,434,904.6 | 815 |
| 141 | | 1,640,163.5 | 8 | 1,536,760.4 | 277 | | 1,739,060.1 | 114 | 1,637,690.1 | 523 |
| 151 | | 1,644,141.7 | 876 | 1,540,507.8 | 151 | | 1,743,937.8 | 2670 | 1,540,361.0 | 175 |

*Continued on next page*

Table 6 – *Continued from previous page*

| | | Two stacks | | Three stacks | | | Two stacks | | Three stacks | |
|---|---|---|---|---|---|---|---|---|---|---|
| Nodes | Inst. | $z^*$ | Sec. | $z^*$ | Sec. | Inst. | $z^*$ | Sec. | $z^*$ | Sec. |
| 51 | fnl4461-c12-w90-3000-4000 | 813,822.6 | 1 | 714,328.0 | 0 | fnl4461-c12-w120-3000-4000 | 611,962.6 | 1 | 611,149.8 | 4 |
| 61 | | 916,416.4 | 1 | 817,382.7 | 438 | | 716,421.7 | 2 | 714,723.2 | 14 |
| 71 | | 1,016,344.0 | 11 | 815,993.3 | 4 | | 716,215.8 | 5 | 715,190.0 | 7 |
| 81 | | 1,022,017.1 | 7 | 921,585.5 | 3 | | 920,071.9 | 59 | 819,862.0 | 34 |
| 91 | | 1,026,535.5 | 8 | 1,022,957.9 | 23 | | 923,359.2 | 3078 | 919,381.1 | 218 |
| 101 | | 1,326,284.0 | 46 | 1,225,578.3 | 402 | | 1,227,428.5 | 168 | 1,125,947.9 | 941 |
| 111 | | 1,332,455.4 | 69 | 1,227,614.4 | 31 | | 1,129,857.9 | 479 | 1,125,605.0 | 2682 |
| 121 | | 1,532,456.6 | 7 | 1,332,947.2 | 235 | | 1,330,947.6 | 186 | – | – |
| 131 | | 1,332,941.8 | 191 | 1,233,131.2 | 796 | | 1,332,993.8 | 1940 | 1,132,684.3 | 1277 |
| 141 | | 1,537,557.3 | 748 | 1,435,431.6 | 452 | | – | – | – | – |
| 151 | | 1,643,254.2 | 3232 | – | – | | 1,538,154.5 | 1366 | – | – |
| 51 | nrw1379-c12-w45-3000-4000 | 816,667.0 | 1 | 815,723.9 | 1 | nrw1379-c12-w60-3000-4000 | 814,734.2 | 1 | 714,314.3 | 1 |
| 61 | | 1,018,848.1 | 1 | 918,778.9 | 1 | | 818,866.5 | 1 | 818,782.7 | 1 |
| 71 | | 1,222,896.0 | 1 | 1,121,131.5 | 0 | | 1,122,340.9 | 1 | 1,122,155.8 | 1 |
| 81 | | 1,328,429.4 | 1 | 1,231,183.1 | 1 | | 1,327,119.4 | 1 | 1,226,778.6 | 1 |
| 91 | | 1,428,365.1 | 1 | 1,330,075.1 | 1 | | 1,328,776.6 | 5 | 1,228,501.0 | 4 |
| 101 | | 1,429,560.2 | 7 | 1,329,716.9 | 4 | | 1,432,098.8 | 1 | 1,429,736.1 | 2 |
| 111 | | 1,536,937.3 | 5 | 1,534,215.0 | 26 | | 1,637,183.5 | 6 | 1,634,836.7 | 7 |
| 121 | | 1,738,930.1 | 33 | 1,539,556.5 | 31 | | 1,740,399.8 | 57 | 1,539,882.0 | 53 |
| 131 | | 2,040,920.7 | 5 | 1,842,084.3 | 2 | | 1,740,492.0 | 171 | 1,639,295.2 | 470 |
| 141 | | 2,446,301.1 | 84 | 1,945,085.4 | 3 | | 2,149,937.7 | 120 | 1,947,046.8 | 19 |
| 151 | | 2,354,335.0 | 6 | 2,051,155.2 | 17 | | 1,948,486.1 | 513 | 1,844,157.6 | 539 |
| 51 | nrw1379-c12-w75-3000-4000 | 1,019,777.3 | 1 | 918,882.3 | 0 | nrw1379-c12-w90-3000-4000 | 817,339.3 | 0 | 815,953.6 | 2 |
| 61 | | 1,019,800.7 | 1 | 1,019,513.3 | 1 | | 1,323,842.9 | 1 | 1,222,461.1 | 0 |
| 71 | | 1,123,342.6 | 2 | 1,020,804.5 | 1 | | 1,121,492.5 | 3 | 1,021,147.9 | 3 |
| 81 | | 1,225,531.4 | 2 | 1,125,448.0 | 7 | | 1,125,979.0 | 30 | 1,023,998.1 | 7 |
| 91 | | 1,329,568.2 | 2 | 1,229,756.2 | 3 | | 1,325,285.1 | 3 | 1,323,626.8 | 8 |
| 101 | | 1,327,014.3 | 3 | 1,225,428.9 | 4 | | 1,429,650.5 | 4 | 1,427,969.3 | 6 |
| 111 | | 1,634,908.8 | 7 | 1,435,236.8 | 2 | | 1,431,759.4 | 7 | 1,329,356.9 | 9 |
| 121 | | 1,634,545.5 | 3 | 1,530,437.5 | 11 | | 1,435,104.5 | 37 | 1,334,100.8 | 5 |
| 131 | | 1,838,469.9 | 5 | 1,637,411.8 | 466 | | – | – | 1,334,713.5 | 111 |
| 141 | | 1,943,429.1 | 81 | 1,741,383.2 | 381 | | 1,742,818.0 | 296 | – | – |
| 151 | | 1,844,773.7 | 15 | 1,743,506.5 | 381 | | 1,741,604.0 | 3528 | 1,638,622.6 | 224 |
| 51 | nrw1379-c12-w120-3000-4000 | 716,038.1 | 1 | 615,546.0 | 1 | | | | | |
| 61 | | 919,057.9 | 1 | 818,667.7 | 1 | | | | | |
| 71 | | 1,122,920.8 | 3 | 1,023,418.4 | 13 | | | | | |
| 81 | | 1,027,318.8 | 15 | 924,129.6 | 5 | | | | | |
| 91 | | 1,124,584.9 | 23 | 1,123,221.3 | 9 | | | | | |
| 101 | | 1,331,194.5 | 9 | 1,230,463.8 | 33 | | | | | |
| 111 | | 1,334,746.2 | 75 | – | – | | | | | |
| 121 | | 1,435,026.0 | 993 | 1,332,060.5 | 251 | | | | | |
| 131 | | 1,636,792.5 | 78 | 1,435,224.9 | 2628 | | | | | |
| 141 | | – | – | 1,640,404.4 | 39 | | | | | |
| 151 | | – | – | 1,538,087.5 | 1258 | | | | | |

# Appendix C Detailed computational results

Tables 7–18 present the detailed computational results obtained for the PDPTWMS-H according the the value of $\delta$ and the number of stacks. The first two columns indicate the name of the instance (*Inst.*) and the number of nodes in the instance (*Nodes*). For each policy 1 to 6, we present the optimal solution value ($z^*$) and the total computational time in seconds to solve the instance (*Sec.*). An entry "–" indicates that the instance has not been solved within the prescribed time limit of 3600 seconds.

**Table 7: Detailed computational results $\delta = 0$ and with two stacks**

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w15-500-1000 | 51 | 704,358.0 | 3 | 704,358.0 | 3 | 704,358.0 | 3 | 704,358.0 | 3 | 704,358.0 | 3 | 704,358.0 | 6 |
| | 61 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 |
| | 71 | 905,856.9 | 3 | 905,856.9 | 3 | 905,856.9 | 3 | 905,856.9 | 3 | 905,856.9 | 4 | 905,856.9 | 7 |
| | 81 | 1,307,681.0 | 2 | 1,307,681.0 | 2 | 1,307,681.0 | 3 | 1,307,681.0 | 2 | 1,307,681.0 | 3 | 1,307,681.0 | 6 |
| | 91 | 1,308,013.9 | 3 | 1,308,013.9 | 3 | 1,308,013.9 | 3 | 1,308,013.9 | 3 | 1,308,013.9 | 5 | 1,308,013.9 | 9 |
| | 101 | 1,410,469.5 | 1 | 1,410,469.5 | 1 | 1,410,469.5 | 1 | 1,410,469.5 | 1 | 1,410,469.5 | 2 | 1,410,469.5 | 2 |
| | 111 | 1,712,063.4 | 4 | 1,712,063.4 | 4 | 1,712,063.4 | 4 | 1,712,063.4 | 4 | 1,712,063.4 | 4 | 1,712,063.4 | 6 |
| | 121 | 1,511,808.0 | 91 | 1,511,808.0 | 102 | 1,511,808.0 | 114 | 1,511,808.0 | 95 | 1,511,808.0 | 111 | 1,511,808.0 | 206 |
| | 131 | 1,711,889.1 | 92 | 1,711,889.1 | 79 | 1,711,889.1 | 91 | 1,711,889.1 | 107 | 1,711,889.1 | 130 | 1,711,889.1 | 427 |
| | 141 | 1,813,418.9 | 11 | 1,813,418.9 | 13 | 1,813,418.9 | 14 | 1,813,418.9 | 12 | 1,813,418.9 | 17 | 1,813,418.9 | 51 |
| | 151 | 1,915,246.0 | 108 | 1,915,246.0 | 116 | 1,915,246.0 | 128 | 1,915,246.0 | 162 | 1,915,246.0 | 181 | 1,915,246.0 | 316 |
| a280-c12-w15-1000-1200 | 51 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 |
| | 61 | 804,876.2 | 1 | 804,876.2 | 1 | 804,876.2 | 1 | 804,876.2 | 1 | 804,876.2 | 1 | 804,876.2 | 1 |
| | 71 | 906,083.7 | 0 | 906,083.7 | 1 | 906,083.7 | 1 | 906,083.7 | 1 | 906,083.7 | 1 | 906,083.7 | 1 |
| | 81 | 1,108,173.8 | 1 | 1,108,173.8 | 1 | 1,108,173.8 | 1 | 1,108,173.8 | 1 | 1,108,173.8 | 1 | 1,108,173.8 | 1 |
| | 91 | 1,208,810.6 | 1 | 1,208,810.6 | 1 | 1,208,810.6 | 2 | 1,208,810.6 | 1 | 1,208,810.6 | 2 | 1,208,810.6 | 3 |
| | 101 | 1,209,664.4 | 26 | 1,209,664.4 | 28 | 1,209,664.4 | 33 | 1,209,664.4 | 25 | 1,209,664.4 | 28 | 1,209,664.4 | 49 |
| | 111 | 1,210,677.4 | 18 | 1,210,677.4 | 20 | 1,210,677.4 | 23 | 1,210,677.4 | 21 | 1,210,677.4 | 24 | 1,210,677.4 | 43 |
| | 121 | 1,109,801.4 | 388 | 1,109,801.4 | 464 | 1,109,801.4 | 556 | 1,109,801.4 | 459 | 1,109,801.4 | 614 | 1,109,801.4 | 1448 |
| | 131 | 1,411,760.0 | 2836 | 1,411,760.0 | 3264 | – | – | – | – | – | – | – | – |
| | 141 | 1,712,848.8 | 27 | 1,712,848.8 | 29 | 1,712,848.8 | 58 | 1,712,848.8 | 51 | 1,712,848.8 | 66 | 1,712,848.8 | 158 |
| | 151 | 1,614,262.0 | 2194 | 1,614,262.0 | 1644 | 1,614,262.0 | 1929 | 1,614,262.0 | 2312 | 1,614,262.0 | 3094 | 1,614,262.0 | 3395 |
| a280-c12-w15-1500-2000 | 51 | 503,826.1 | 1 | 503,826.1 | 1 | 503,826.1 | 2 | 503,826.1 | 1 | 503,826.1 | 3 | 503,826.1 | 5 |
| | 61 | 604,803.4 | 3 | 604,803.4 | 3 | 604,803.4 | 4 | 604,803.4 | 5 | 604,803.4 | 6 | 604,803.4 | 14 |
| | 71 | 705,121.6 | 228 | 705,121.6 | 264 | 705,121.6 | 349 | 705,121.6 | 222 | 705,121.6 | 256 | 705,121.6 | 1289 |
| | 81 | 707,035.6 | 55 | 707,035.6 | 39 | 707,035.6 | 49 | 707,035.6 | 76 | 707,035.6 | 109 | 707,035.6 | 299 |
| | 91 | 808,453.6 | 16 | 808,453.6 | 20 | 808,453.6 | 17 | 808,453.6 | 19 | 808,453.6 | 25 | 808,453.6 | 78 |
| | 101 | 907,809.5 | 348 | 907,809.5 | 396 | 907,809.5 | 533 | 907,809.5 | 494 | 907,809.5 | 804 | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w-30-500-1000 | 51 | 604,181.6 | 0 | 604,181.6 | 0 | 604,181.6 | 0 | 604,181.6 | 0 | 604,181.6 | 0 | 604,181.6 | 1 |
| | 61 | 804,447.7 | 3 | 804,447.7 | 4 | 804,447.7 | 4 | 804,447.7 | 3 | 804,447.7 | 7 | 804,447.7 | 21 |
| | 71 | 806,323.4 | 5 | 806,323.4 | 5 | 806,323.4 | 6 | 806,323.4 | 6 | 806,323.4 | 8 | 806,323.4 | 13 |
| | 81 | 1,007,926.1 | 15 | 1,007,926.1 | 15 | 1,007,926.1 | 17 | 1,007,926.1 | 18 | 1,007,926.1 | 23 | 1,007,926.1 | 149 |
| | 91 | 1,207,909.5 | 27 | 1,207,909.5 | 28 | 1,207,909.5 | 33 | 1,207,909.5 | 19 | 1,207,909.5 | 22 | 1,207,909.5 | 45 |
| | 101 | 1,209,411.0 | 63 | 1,209,411.0 | 67 | 1,209,411.0 | 77 | 1,209,411.0 | 67 | 1,209,411.0 | 83 | 1,209,411.0 | 121 |
| | 111 | 1,309,889.6 | 1337 | 1,309,889.6 | 1654 | 1,309,889.6 | 2019 | 1,309,889.6 | 2186 | 1,309,889.6 | 2393 | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | 1,510,711.0 | 2470 | 1,510,711.0 | 3496 | – | – | 1,510,711.0 | 3569 | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w-30-1000-1200 | 51 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 |
| | 61 | 704,378.3 | 1 | 704,378.3 | 1 | 704,378.3 | 1 | 704,378.3 | 1 | 704,378.3 | 1 | 704,378.3 | 1 |
| | 71 | 905,414.6 | 2 | 905,414.6 | 2 | 905,414.6 | 2 | 905,414.6 | 2 | 905,414.6 | 2 | 905,414.6 | 4 |
| | 81 | 1,006,924.9 | 1 | 1,006,924.9 | 1 | 1,006,924.9 | 1 | 1,006,924.9 | 1 | 1,006,924.9 | 2 | 1,006,924.9 | 2 |
| | 91 | 1,108,074.4 | 8 | 1,108,074.4 | 9 | 1,108,074.4 | 10 | 1,108,074.4 | 11 | 1,108,074.4 | 13 | 1,108,074.4 | 20 |
| | 101 | 1,110,165.7 | 21 | 1,110,165.7 | 22 | 1,110,165.7 | 25 | 1,110,165.7 | 22 | 1,110,165.7 | 22 | 1,110,165.7 | 36 |
| | 111 | 1,310,492.9 | 102 | 1,310,492.9 | 111 | 1,310,492.9 | 125 | 1,310,492.9 | 265 | 1,310,492.9 | 407 | 1,310,492.9 | 462 |
| | 121 | 1,411,010.1 | 173 | 1,411,010.1 | 194 | 1,411,010.1 | 261 | 1,411,010.1 | 161 | 1,411,010.1 | 480 | 1,411,010.1 | 985 |
| | 131 | 1,209,958.6 | 2004 | 1,209,958.6 | 2147 | 1,209,958.6 | 2465 | – | – | – | – | – | – |
| | 141 | 1,312,733.7 | 172 | 1,312,733.7 | 236 | 1,312,733.7 | 338 | 1,312,733.7 | 214 | 1,312,733.7 | 268 | 1,312,471.1 | 485 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |

*Continued on next page*

Table 7 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w30-1500-2000 | 51 | 503,634.0 | 19 | 503,634.0 | 25 | 503,634.0 | 31 | 503,634.0 | 28 | 503,634.0 | 57 | 503,634.0 | 432 |
| | 61 | 504,529.7 | 8 | 504,529.7 | 9 | 504,529.7 | 12 | 504,529.7 | 16 | 504,529.7 | 34 | 504,529.7 | 215 |
| | 71 | 705,050.1 | 15 | 705,050.1 | 15 | 705,050.1 | 19 | 705,050.1 | 22 | 705,050.1 | 34 | 705,050.1 | 113 |
| | 81 | 706,246.0 | 99 | 706,246.0 | 171 | 706,246.0 | 211 | 706,246.0 | 221 | 706,246.0 | 404 | 706,246.0 | 1411 |
| | 91 | 706,756.8 | 41 | 706,756.8 | 51 | 706,756.8 | 57 | 706,756.8 | 72 | 706,756.8 | 76 | 706,756.8 | 277 |
| | 101 | 808,836.0 | 2975 | – | – | – | – | – | – | – | – | – | – |
| | 111 | 809,427.7 | 1814 | 809,427.7 | 2101 | 809,427.7 | 2752 | 809,427.7 | 2223 | 809,427.7 | 3121 | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-500-1000 | 51 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 4 |
| | 61 | 704,206.7 | 95 | 704,206.7 | 100 | 704,206.7 | 141 | 704,206.7 | 94 | 704,206.7 | 137 | 704,206.7 | 2338 |
| | 71 | 805,493.0 | 1445 | 805,493.0 | 1673 | 805,493.0 | 2094 | 805,493.0 | 1581 | 805,493.0 | 2027 | – | – |
| | 81 | 906,513.3 | 25 | 906,513.3 | 26 | 906,513.3 | 31 | 906,513.3 | 25 | 906,513.3 | 41 | 906,513.3 | 86 |
| | 91 | 1,007,034.7 | 1131 | 1,007,034.7 | 1418 | 1,007,034.7 | 1458 | 1,007,034.7 | 1989 | 907,341.1 | 971 | – | – |
| | 101 | 1,208,867.9 | 187 | 1,208,867.9 | 328 | 1,208,867.9 | 231 | 1,208,867.9 | 219 | 1,208,867.9 | 221 | 1,208,867.9 | 3273 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1000-1200 | 51 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 4 |
| | 61 | 503,986.8 | 4 | 503,986.8 | 4 | 503,986.8 | 4 | 503,986.8 | 4 | 503,986.8 | 5 | 503,986.8 | 11 |
| | 71 | 705,049.4 | 4 | 705,049.4 | 4 | 705,049.4 | 5 | 705,049.4 | 5 | 705,049.4 | 6 | 705,049.4 | 13 |
| | 81 | 806,345.2 | 408 | 806,345.2 | 439 | 806,345.2 | 540 | 806,345.2 | 370 | 806,345.2 | 507 | 806,327.4 | 774 |
| | 91 | 907,740.0 | 28 | 907,740.0 | 30 | 907,740.0 | 62 | 907,740.0 | 51 | 907,740.0 | 49 | 907,740.0 | 211 |
| | 101 | 1,108,675.1 | 1484 | 1,108,675.1 | 1558 | – | – | 1,108,675.1 | 1563 | 1,108,675.1 | 2204 | 1,108,617.6 | 1292 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1500-2000 | 51 | 503,766.0 | 43 | 503,766.0 | 48 | 503,766.0 | 58 | 503,766.0 | 23 | 503,766.0 | 55 | 503,766.0 | 196 |
| | 61 | 604,196.8 | 26 | 604,196.8 | 29 | 604,196.8 | 36 | 604,196.8 | 40 | 604,196.8 | 39 | 604,196.8 | 151 |
| | 71 | 604,847.6 | 731 | 604,847.6 | 971 | 604,847.6 | 1255 | – | – | – | – | – | – |
| | 81 | 606,831.4 | 215 | 606,831.4 | 233 | 606,831.4 | 272 | 606,831.4 | 316 | 606,831.4 | 350 | 606,831.4 | 944 |
| | 91 | 806,933.5 | 282 | 806,933.5 | 301 | 806,933.5 | 426 | 806,933.5 | 540 | 806,933.5 | 580 | 806,900.2 | 731 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | 1,010,467.5 | 2930 | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| brd14051-c12-w45-3000-4000 | 51 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 |
| | 61 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| | 71 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 |
| | 81 | 1,336,264.6 | 6 | 1,336,264.6 | 6 | 1,336,264.6 | 6 | 1,336,264.6 | 6 | 1,336,264.6 | 7 | 1,336,264.6 | 10 |
| | 91 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 |
| | 101 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 |
| | 111 | 2,052,559.3 | 2 | 2,052,559.3 | 2 | 2,052,559.3 | 2 | 2,052,559.3 | 2 | 2,052,559.3 | 2 | 2,052,559.3 | 2 |
| | 121 | 2,058,447.8 | 4 | 2,058,447.8 | 4 | 2,058,447.8 | 4 | 2,058,447.8 | 5 | 2,058,447.8 | 5 | 2,058,447.8 | 7 |
| | 131 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 |
| | 141 | 2,570,595.0 | 10 | 2,570,595.0 | 11 | 2,570,595.0 | 13 | 2,570,595.0 | 13 | 2,570,595.0 | 16 | 2,570,595.0 | 36 |
| | 151 | 2,669,057.9 | 395 | 2,669,057.9 | 346 | 2,669,057.9 | 383 | 2,669,057.9 | 420 | 2,669,057.9 | 686 | 2,669,057.9 | 1394 |

*Continued on next page*

Table 7 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| brd14051-c12-w60-3000-4000 | 51 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 |
| | 61 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 |
| | 71 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 |
| | 81 | 1,639,524.2 | 0 | 1,639,524.2 | 1 | 1,639,524.2 | 1 | 1,639,524.2 | 1 | 1,639,524.2 | 1 | 1,639,524.2 | 1 |
| | 91 | 1,641,517.5 | 1 | 1,641,517.5 | 1 | 1,641,517.5 | 1 | 1,641,517.5 | 1 | 1,641,517.5 | 1 | 1,641,517.5 | 2 |
| | 101 | 1,948,345.1 | 3 | 1,948,345.1 | 3 | 1,948,345.1 | 3 | 1,948,345.1 | 3 | 1,948,345.1 | 3 | 1,948,345.1 | 3 |
| | 111 | 1,645,846.5 | 4 | 1,645,846.5 | 5 | 1,645,846.5 | 5 | 1,645,846.5 | 5 | 1,645,846.5 | 6 | 1,645,846.5 | 10 |
| | 121 | 2,467,816.2 | 8 | 2,467,816.2 | 8 | 2,467,816.2 | 9 | 2,467,816.2 | 9 | 2,467,816.2 | 10 | 2,467,816.2 | 11 |
| | 131 | 2,471,043.4 | 1 | 2,471,043.4 | 1 | 2,471,043.4 | 1 | 2,471,043.4 | 1 | 2,471,043.4 | 1 | 2,471,043.4 | 1 |
| | 141 | 2,261,939.7 | 4 | 2,261,939.7 | 4 | 2,261,939.7 | 4 | 2,261,939.7 | 3 | 2,261,939.7 | 4 | 2,261,939.7 | 5 |
| | 151 | 2,470,006.4 | 6 | 2,470,006.4 | 7 | 2,470,006.4 | 8 | 2,470,006.4 | 7 | 2,470,006.4 | 10 | 2,470,006.4 | 39 |
| brd14051-c12-w75-3000-4000 | 51 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 |
| | 61 | 1,336,521.0 | 17 | 1,336,521.0 | 17 | 1,336,521.0 | 17 | 1,336,521.0 | 19 | 1,336,521.0 | 18 | 1,336,521.0 | 20 |
| | 71 | 1,435,166.0 | 23 | 1,435,166.0 | 24 | 1,435,166.0 | 25 | 1,435,166.0 | 24 | 1,435,166.0 | 25 | 1,435,166.0 | 32 |
| | 81 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 |
| | 91 | 1,540,611.3 | 26 | 1,540,611.3 | 28 | 1,540,611.3 | 29 | 1,540,611.3 | 28 | 1,540,611.3 | 28 | 1,540,611.3 | 32 |
| | 101 | 1,852,383.2 | 1 | 1,852,383.2 | 1 | 1,852,383.2 | 1 | 1,852,383.2 | 1 | 1,852,383.2 | 1 | 1,852,383.2 | 2 |
| | 111 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 3 | 1,852,896.4 | 3 |
| | 121 | 2,057,916.2 | 3 | 2,057,916.2 | 3 | 2,057,916.2 | 3 | 2,057,916.2 | 3 | 2,057,916.2 | 3 | 2,057,916.2 | 3 |
| | 131 | 2,269,831.9 | 5 | 2,269,831.9 | 5 | 2,269,831.9 | 5 | 2,269,831.9 | 5 | 2,269,831.9 | 5 | 2,269,831.9 | 6 |
| | 141 | 1,952,915.9 | 88 | 1,952,915.9 | 95 | 1,952,915.9 | 130 | 1,952,915.9 | 124 | 1,952,915.9 | 92 | 1,952,915.9 | 250 |
| | 151 | 2,055,763.3 | 42 | 2,055,763.3 | 46 | 2,055,763.3 | 50 | 2,055,763.3 | 51 | 2,055,763.3 | 58 | 2,055,763.3 | 168 |
| brd14051-c12-w90-3000-4000 | 51 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 |
| | 61 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 |
| | 71 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 |
| | 81 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 |
| | 91 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 2 |
| | 101 | 1,753,389.9 | 1 | 1,753,389.9 | 2 | 1,753,389.9 | 2 | 1,753,389.9 | 2 | 1,753,389.9 | 2 | 1,753,389.9 | 3 |
| | 111 | 1,543,257.5 | 5 | 1,543,257.5 | 6 | 1,543,257.5 | 5 | 1,543,257.5 | 5 | 1,543,257.5 | 5 | 1,543,257.5 | 14 |
| | 121 | 2,056,640.9 | 2 | 2,056,640.9 | 2 | 2,056,640.9 | 2 | 2,056,640.9 | 3 | 2,056,640.9 | 3 | 2,056,640.9 | 7 |
| | 131 | 2,067,734.7 | 2 | 2,067,734.7 | 2 | 2,067,734.7 | 2 | 2,067,734.7 | 2 | 2,067,734.7 | 2 | 2,067,734.7 | 3 |
| | 141 | 2,256,497.9 | 40 | 2,256,497.9 | 45 | 2,256,497.9 | 63 | 2,256,497.9 | 53 | 2,256,497.9 | 62 | 2,256,497.9 | 245 |
| | 151 | 2,057,395.1 | 916 | 2,057,395.1 | 1013 | 2,057,395.1 | 960 | 2,057,395.1 | 581 | 2,057,395.1 | 896 | 2,057,395.1 | 2831 |
| brd14051-c12-w120-3000-4000 | 51 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 |
| | 61 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 1 | 1,131,682.3 | 1 | 1,131,682.3 | 1 |
| | 71 | 1,233,921.9 | 6 | 1,233,921.9 | 6 | 1,233,921.9 | 6 | 1,233,921.9 | 6 | 1,233,921.9 | 6 | 1,233,921.9 | 8 |
| | 81 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 2 |
| | 91 | 1,444,957.8 | 1 | 1,444,957.8 | 1 | 1,444,957.8 | 1 | 1,444,957.8 | 1 | 1,444,957.8 | 1 | 1,444,957.8 | 1 |
| | 101 | 1,849,555.6 | 2 | 1,849,555.6 | 2 | 1,849,555.6 | 2 | 1,849,555.6 | 2 | 1,849,555.6 | 2 | 1,849,555.6 | 3 |
| | 111 | 1,540,974.8 | 10 | 1,540,974.8 | 10 | 1,540,974.8 | 11 | 1,540,974.8 | 11 | 1,540,974.8 | 12 | 1,540,974.8 | 24 |
| | 121 | 1,850,592.8 | 252 | 1,850,592.8 | 269 | 1,850,592.8 | 287 | 1,850,592.8 | 722 | 1,850,592.8 | 522 | – | – |
| | 131 | 1,858,505.0 | 5 | 1,858,505.0 | 5 | 1,858,505.0 | 5 | 1,858,505.0 | 5 | 1,858,505.0 | 5 | 1,858,505.0 | 9 |
| | 141 | 1,955,887.9 | 201 | 1,955,887.9 | 220 | 1,955,887.9 | 289 | 1,955,887.9 | 690 | 1,955,887.9 | 581 | 1,955,887.9 | 2496 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| d18512-c12-w45-3000-4000 | 51 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 |
| | 61 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 |
| | 71 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 |
| | 81 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 1 |
| | 91 | 1,643,695.1 | 1 | 1,643,695.1 | 1 | 1,643,695.1 | 1 | 1,643,695.1 | 1 | 1,643,695.1 | 1 | 1,643,695.1 | 1 |
| | 101 | 1,747,715.0 | 2 | 1,747,715.0 | 2 | 1,747,715.0 | 2 | 1,747,715.0 | 2 | 1,747,715.0 | 2 | 1,747,715.0 | 2 |
| | 111 | 2,057,771.4 | 2 | 2,057,771.4 | 2 | 2,057,771.4 | 2 | 2,057,771.4 | 2 | 2,057,771.4 | 2 | 2,057,771.4 | 2 |
| | 121 | 2,467,620.2 | 2 | 2,467,620.2 | 2 | 2,467,620.2 | 2 | 2,467,620.2 | 2 | 2,467,620.2 | 2 | 2,467,620.2 | 2 |
| | 131 | 2,265,058.6 | 11 | 2,265,058.6 | 11 | 2,265,058.6 | 13 | 2,265,058.6 | 12 | 2,265,058.6 | 13 | 2,265,058.6 | 32 |
| | 141 | 2,470,414.0 | 3 | 2,470,414.0 | 3 | 2,470,414.0 | 3 | 2,470,414.0 | 3 | 2,470,414.0 | 3 | 2,470,414.0 | 7 |
| | 151 | 2,367,001.0 | 2 | 2,367,001.0 | 3 | 2,367,001.0 | 3 | 2,367,001.0 | 3 | 2,367,001.0 | 3 | 2,367,001.0 | 3 |

*Continued on next page*

Table 7 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| d18512-c12-w60-3000-4000 | 51 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 |
| | 61 | 1,129,787.1 | 2 | 1,129,787.1 | 2 | 1,129,787.1 | 2 | 1,129,787.1 | 2 | 1,129,787.1 | 2 | 1,129,787.1 | 2 |
| | 71 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 1 |
| | 81 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 |
| | 91 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 |
| | 101 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 3 |
| | 111 | 2,161,004.7 | 7 | 2,161,004.7 | 7 | 2,161,004.7 | 7 | 2,161,004.7 | 8 | 2,161,004.7 | 8 | 2,161,004.7 | 12 |
| | 121 | 2,369,530.4 | 2 | 2,369,530.4 | 2 | 2,369,530.4 | 2 | 2,369,530.4 | 2 | 2,369,530.4 | 2 | 2,369,530.4 | 4 |
| | 131 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 4 | 2,163,559.7 | 6 |
| | 141 | 2,060,527.0 | 9 | 2,060,527.0 | 10 | 2,060,527.0 | 12 | 2,060,527.0 | 9 | 2,060,527.0 | 18 | 2,060,527.0 | 82 |
| | 151 | 2,472,073.3 | 4 | 2,472,073.3 | 4 | 2,472,073.3 | 5 | 2,472,073.3 | 6 | 2,472,073.3 | 5 | 2,472,073.3 | 10 |
| d18512-c12-w75-3000-4000 | 51 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 |
| | 61 | 1,131,854.1 | 0 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 |
| | 71 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 |
| | 81 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 |
| | 91 | 1,537,205.4 | 2 | 1,537,205.4 | 2 | 1,537,205.4 | 2 | 1,537,205.4 | 2 | 1,537,205.4 | 2 | 1,537,205.4 | 3 |
| | 101 | 1,643,545.7 | 392 | 1,643,545.7 | 422 | 1,643,545.7 | 449 | 1,643,545.7 | 391 | 1,643,545.7 | 485 | 1,643,545.7 | 837 |
| | 111 | 1,854,713.5 | 11 | 1,854,713.5 | 12 | 1,854,713.5 | 13 | 1,854,713.5 | 13 | 1,854,713.5 | 15 | 1,854,713.5 | 26 |
| | 121 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 2 | 2,163,215.4 | 2 |
| | 131 | 2,157,306.7 | 3 | 2,157,306.7 | 3 | 2,157,306.7 | 3 | 2,157,306.7 | 3 | 2,157,306.7 | 3 | 2,157,306.7 | 3 |
| | 141 | 2,163,592.3 | 3 | 2,163,592.3 | 3 | 2,163,592.3 | 3 | 2,163,592.3 | 3 | 2,163,592.3 | 3 | 2,163,592.3 | 8 |
| | 151 | 2,163,181.4 | 89 | 2,163,181.4 | 94 | 2,163,181.4 | 110 | 2,163,181.4 | 147 | 2,163,181.4 | 115 | 2,163,181.4 | 308 |
| d18512-c12-w90-3000-4000 | 51 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 |
| | 61 | 1,230,401.8 | 209 | 1,230,401.8 | 217 | 1,230,401.8 | 220 | 1,230,401.8 | 212 | 1,230,401.8 | 219 | 1,230,401.8 | 258 |
| | 71 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 |
| | 81 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 |
| | 91 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 2 |
| | 101 | 1,643,547.9 | 1 | 1,643,547.9 | 2 | 1,643,547.9 | 2 | 1,643,547.9 | 2 | 1,643,547.9 | 2 | 1,643,547.9 | 3 |
| | 111 | 2,051,359.9 | 2 | 2,051,359.9 | 2 | 2,051,359.9 | 2 | 2,051,359.9 | 2 | 2,051,359.9 | 2 | 2,051,359.9 | 3 |
| | 121 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 4 | 2,059,222.6 | 6 |
| | 131 | 2,056,122.0 | 28 | 2,056,122.0 | 33 | 2,056,122.0 | 31 | 2,056,122.0 | 27 | 2,056,122.0 | 37 | 2,056,122.0 | 101 |
| | 141 | 1,956,221.6 | 14 | 1,956,221.6 | 16 | 1,956,221.6 | 17 | 1,956,221.6 | 18 | 1,956,221.6 | 21 | 1,956,221.6 | 46 |
| | 151 | 2,467,972.4 | 69 | 2,467,972.4 | 61 | 2,467,972.4 | 100 | 2,467,972.4 | 69 | 2,467,972.4 | 155 | 2,467,972.4 | 562 |
| d18512-c12-w120-3000-4000 | 51 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 |
| | 61 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 |
| | 71 | 1,331,511.4 | 2 | 1,331,511.4 | 2 | 1,331,511.4 | 2 | 1,331,511.4 | 2 | 1,331,511.4 | 2 | 1,331,511.4 | 3 |
| | 81 | 1,333,708.2 | 2 | 1,333,708.2 | 2 | 1,333,708.2 | 2 | 1,333,708.2 | 2 | 1,333,708.2 | 2 | 1,333,708.2 | 3 |
| | 91 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 3 | 1,541,793.5 | 3 |
| | 101 | 1,545,282.9 | 2 | 1,545,282.9 | 2 | 1,545,282.9 | 2 | 1,545,282.9 | 1 | 1,545,282.9 | 1 | 1,545,282.9 | 3 |
| | 111 | 1,750,111.3 | 2 | 1,750,111.3 | 2 | 1,750,111.3 | 2 | 1,750,111.3 | 2 | 1,750,111.3 | 3 | 1,750,111.3 | 3 |
| | 121 | 2,064,040.3 | 2451 | 2,064,040.3 | 2528 | 2,064,040.3 | 2621 | 2,064,040.3 | 1535 | 2,064,040.3 | 2799 | 2,064,040.3 | 3054 |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | 1,956,119.1 | 17 | 1,956,119.1 | 18 | 1,956,119.1 | 20 | 1,956,119.1 | 22 | 1,956,119.1 | 38 | 1,956,119.1 | 64 |
| | 151 | 2,059,907.6 | 9 | 2,059,907.6 | 9 | 2,059,907.6 | 9 | 2,059,907.6 | 12 | 2,059,907.6 | 11 | 2,059,907.6 | 41 |
| fn14461-c12-w45-3000-4000 | 51 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 |
| | 61 | 1,218,986.5 | 1 | 1,218,986.5 | 1 | 1,218,986.5 | 1 | 1,218,986.5 | 1 | 1,218,986.5 | 1 | 1,218,986.5 | 1 |
| | 71 | 917,220.9 | 2 | 917,220.9 | 2 | 917,220.9 | 2 | 917,220.9 | 2 | 917,220.9 | 2 | 917,220.9 | 2 |
| | 81 | 921,577.8 | 1 | 921,577.8 | 1 | 921,577.8 | 1 | 921,577.8 | 1 | 921,577.8 | 1 | 921,577.8 | 2 |
| | 91 | 1,121,606.1 | 378 | 1,121,606.1 | 215 | 1,121,606.1 | 445 | 1,121,606.1 | 285 | 1,121,606.1 | 228 | 1,121,606.1 | 701 |
| | 101 | 1,327,908.6 | 12 | 1,327,908.6 | 13 | 1,327,908.6 | 14 | 1,327,908.6 | 19 | 1,327,908.6 | 11 | 1,327,908.6 | 22 |
| | 111 | 1,330,049.8 | 3 | 1,330,049.8 | 3 | 1,330,049.8 | 3 | 1,330,049.8 | 3 | 1,330,049.8 | 4 | 1,330,049.8 | 5 |
| | 121 | 1,433,783.2 | 5 | 1,433,783.2 | 5 | 1,433,783.2 | 6 | 1,433,783.2 | 7 | 1,433,783.2 | 8 | 1,433,783.2 | 12 |
| | 131 | 1,639,494.4 | 77 | 1,639,494.4 | 78 | 1,639,494.4 | 81 | 1,639,494.4 | 106 | 1,639,494.4 | 110 | 1,639,494.4 | 248 |
| | 141 | 1,740,995.2 | 57 | 1,740,995.2 | 64 | 1,740,995.2 | 55 | 1,740,995.2 | 53 | 1,740,995.2 | 48 | 1,740,995.2 | 173 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |

*Continued on next page*

Table 7 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| fnl4461-c12-w60-3000-4000 | 51 | 715,685.0 | 1 | 715,685.0 | 1 | 715,685.0 | 1 | 715,685.0 | 1 | 715,685.0 | 1 | 715,685.0 | 1 |
| | 61 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 |
| | 71 | 917,406.0 | 2 | 917,406.0 | 3 | 917,406.0 | 3 | 917,406.0 | 3 | 917,406.0 | 3 | 917,406.0 | 8 |
| | 81 | 923,020.2 | 3 | 923,020.2 | 3 | 923,020.2 | 3 | 923,020.2 | 4 | 923,020.2 | 4 | 923,020.2 | 5 |
| | 91 | 1,021,784.4 | 3 | 1,021,784.4 | 3 | 1,021,784.4 | 3 | 1,021,784.4 | 3 | 1,021,784.4 | 3 | 1,021,784.4 | 4 |
| | 101 | 1,126,004.8 | 4 | 1,126,004.8 | 4 | 1,126,004.8 | 5 | 1,126,004.8 | 5 | 1,126,004.8 | 6 | 1,126,004.8 | 8 |
| | 111 | 1,329,806.8 | 14 | 1,329,806.8 | 15 | 1,329,806.8 | 17 | 1,329,806.8 | 18 | 1,329,806.8 | 18 | 1,329,806.8 | 38 |
| | 121 | 1,330,242.0 | 30 | 1,330,242.0 | 32 | 1,330,242.0 | 36 | 1,330,242.0 | 31 | 1,330,242.0 | 36 | 1,330,242.0 | 73 |
| | 131 | 1,538,425.7 | 157 | 1,538,425.7 | 165 | 1,538,425.7 | 113 | 1,538,425.7 | 203 | 1,538,425.7 | 182 | 1,538,425.7 | 177 |
| | 141 | 1,536,648.4 | 89 | 1,536,648.4 | 96 | 1,536,648.4 | 93 | 1,536,648.4 | 109 | 1,536,648.4 | 129 | 1,536,648.4 | 323 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w75-3000-4000 | 51 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 2 | 814,113.1 | 2 | 814,113.1 | 2 |
| | 61 | 816,012.8 | 1 | 816,012.8 | 1 | 816,012.8 | 1 | 816,012.8 | 1 | 816,012.8 | 1 | 816,012.8 | 2 |
| | 71 | 818,279.2 | 1 | 818,279.2 | 1 | 818,279.2 | 1 | 818,279.2 | 1 | 818,279.2 | 1 | 818,279.2 | 2 |
| | 81 | 920,269.4 | 4 | 920,269.4 | 4 | 920,269.4 | 4 | 920,269.4 | 5 | 920,269.4 | 7 | 920,269.4 | 9 |
| | 91 | 1,023,143.3 | 4 | 1,023,143.3 | 4 | 1,023,143.3 | 4 | 1,023,143.3 | 5 | 1,023,143.3 | 5 | 1,023,143.3 | 8 |
| | 101 | 1,226,769.5 | 129 | 1,226,769.5 | 142 | 1,226,769.5 | 159 | 1,226,769.5 | 166 | 1,226,769.5 | 168 | 1,226,769.5 | 451 |
| | 111 | 1,130,216.6 | 47 | 1,130,216.6 | 51 | 1,130,216.6 | 55 | 1,130,216.6 | 52 | 1,130,216.6 | 64 | 1,130,216.6 | 111 |
| | 121 | 1,332,526.6 | 193 | 1,332,526.6 | 220 | 1,332,526.6 | 240 | 1,332,526.6 | 236 | 1,332,526.6 | 301 | 1,332,526.6 | 598 |
| | 131 | 1,435,047.3 | 636 | 1,435,047.3 | 586 | 1,435,047.3 | 692 | 1,435,047.3 | 609 | 1,435,047.3 | 783 | 1,435,047.3 | 1992 |
| | 141 | 1,539,207.3 | 103 | 1,539,207.3 | 114 | 1,539,207.3 | 144 | 1,539,207.3 | 128 | 1,539,207.3 | 181 | 1,539,207.3 | 259 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w90-3000-4000 | 51 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 1 |
| | 61 | 817,013.2 | 96 | 817,013.2 | 104 | 817,013.2 | 107 | 817,013.2 | 112 | 817,013.2 | 113 | 817,013.2 | 109 |
| | 71 | 815,054.6 | 4 | 815,054.6 | 4 | 815,054.6 | 4 | 815,054.6 | 4 | 815,054.6 | 6 | 815,054.6 | 9 |
| | 81 | 921,682.1 | 5 | 921,682.1 | 5 | 921,682.1 | 5 | 921,682.1 | 4 | 921,682.1 | 4 | 921,682.1 | 7 |
| | 91 | 1,023,278.7 | 43 | 1,023,278.7 | 49 | 1,023,278.7 | 42 | 1,023,278.7 | 42 | 1,023,278.7 | 36 | 1,023,278.7 | 112 |
| | 101 | 1,225,150.0 | 59 | 1,225,150.0 | 72 | 1,225,150.0 | 104 | 1,225,150.0 | 94 | 1,225,150.0 | 113 | 1,225,150.0 | 1538 |
| | 111 | 1,227,738.5 | 600 | 1,227,738.5 | 627 | 1,227,738.5 | 763 | 1,227,738.5 | 751 | 1,227,738.5 | 1152 | – | – |
| | 121 | 1,334,355.3 | 762 | 1,334,355.3 | 850 | 1,334,355.3 | 964 | 1,334,355.3 | 919 | 1,334,355.3 | 1390 | 1,334,355.3 | 2893 |
| | 131 | 1,231,918.9 | 1814 | 1,231,918.9 | 2570 | 1,231,918.9 | 3098 | 1,231,918.9 | 2985 | 1,231,918.9 | 2755 | – | – |
| | 141 | 1,340,612.3 | 3047 | 1,340,612.3 | 1814 | 1,340,612.3 | 2749 | 1,340,612.3 | 2437 | 1,340,612.3 | 2927 | – | – |
| | 151 | 1,538,426.5 | 1282 | 1,538,426.5 | 1420 | 1,538,426.5 | 1930 | 1,538,426.5 | 1913 | 1,538,426.5 | 2178 | – | – |
| fnl4461-c12-w120-3000-4000 | 51 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 3 | 610,649.0 | 5 |
| | 61 | 714,165.2 | 18 | 714,165.2 | 15 | 714,165.2 | 23 | 714,165.2 | 23 | 714,165.2 | 27 | 714,165.2 | 91 |
| | 71 | 715,327.0 | 6 | 715,327.0 | 6 | 715,327.0 | 7 | 715,327.0 | 11 | 715,327.0 | 11 | 715,327.0 | 41 |
| | 81 | 819,609.3 | 90 | 819,609.3 | 101 | 819,609.3 | 112 | 819,609.3 | 124 | 819,609.3 | 180 | 819,609.3 | 757 |
| | 91 | 819,757.2 | 238 | 819,757.2 | 286 | 819,757.2 | 335 | 819,757.2 | 219 | 819,757.2 | 729 | – | – |
| | 101 | 1,027,740.4 | 240 | 1,027,740.4 | 434 | 1,027,740.4 | 516 | 1,027,740.4 | 635 | 1,027,740.4 | 623 | 1,027,740.4 | 2721 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | 1,130,784.5 | 1247 | 1,130,784.5 | 1280 | 1,130,784.5 | 1459 | 1,130,784.5 | 2728 | 1,130,662.7 | 2498 | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,337,205.5 | 2535 | 1,337,205.5 | 2157 | 1,337,205.5 | 2732 | – | – | – | – | – | – |
| nrw1379-c12-w45-3000-4000 | 51 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 |
| | 61 | 919,538.1 | 1 | 919,538.1 | 1 | 919,538.1 | 1 | 919,538.1 | 1 | 919,538.1 | 1 | 919,538.1 | 1 |
| | 71 | 1,121,008.4 | 1 | 1,121,008.4 | 1 | 1,121,008.4 | 1 | 1,121,008.4 | 1 | 1,121,008.4 | 1 | 1,121,008.4 | 1 |
| | 81 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 2 |
| | 91 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 3 |
| | 101 | 1,328,405.4 | 8 | 1,328,405.4 | 8 | 1,328,405.4 | 9 | 1,328,405.4 | 8 | 1,328,405.4 | 7 | 1,328,405.4 | 12 |
| | 111 | 1,533,441.5 | 9 | 1,533,441.5 | 10 | 1,533,441.5 | 10 | 1,533,441.5 | 10 | 1,533,441.5 | 11 | 1,533,441.5 | 18 |
| | 121 | 1,638,779.9 | 80 | 1,638,779.9 | 87 | 1,638,779.9 | 95 | 1,638,779.9 | 75 | 1,638,779.9 | 108 | 1,638,779.9 | 145 |
| | 131 | 1,840,873.0 | 13 | 1,840,873.0 | 13 | 1,840,873.0 | 13 | 1,840,873.0 | 18 | 1,840,873.0 | 20 | 1,840,873.0 | 37 |
| | 141 | 2,045,604.2 | 136 | 2,045,604.2 | 154 | 2,045,604.2 | 182 | 2,045,604.2 | 202 | 2,045,604.2 | 201 | 2,045,604.2 | 343 |
| | 151 | 2,148,913.7 | 4 | 2,148,913.7 | 4 | 2,148,913.7 | 4 | 2,148,913.7 | 4 | 2,148,913.7 | 4 | 2,148,913.7 | 5 |

*Continued on next page*

Table 7 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| nrw1379-c12-w60-3000-4000 | 51 | 714,362.0 | 0 | 714,362.0 | 0 | 714,362.0 | 0 | 714,362.0 | 1 | 714,362.0 | 0 | 714,362.0 | 1 |
| | 61 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 2 |
| | 71 | 1,122,140.0 | 2 | 1,122,140.0 | 2 | 1,122,140.0 | 2 | 1,122,140.0 | 2 | 1,122,140.0 | 2 | 1,122,140.0 | 3 |
| | 81 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 |
| | 91 | 1,228,112.7 | 8 | 1,228,112.7 | 9 | 1,228,112.7 | 10 | 1,228,112.7 | 7 | 1,228,112.7 | 8 | 1,228,112.7 | 16 |
| | 101 | 1,331,946.8 | 2 | 1,331,946.8 | 2 | 1,331,946.8 | 2 | 1,331,946.8 | 2 | 1,331,946.8 | 2 | 1,331,946.8 | 3 |
| | 111 | 1,635,059.9 | 7 | 1,635,059.9 | 6 | 1,635,059.9 | 8 | 1,635,059.9 | 8 | 1,635,059.9 | 8 | 1,635,059.9 | 15 |
| | 121 | 1,539,625.2 | 67 | 1,539,625.2 | 72 | 1,539,625.2 | 115 | 1,539,625.2 | 76 | 1,539,625.2 | 75 | 1,539,625.2 | 129 |
| | 131 | 1,636,743.3 | 9 | 1,636,743.3 | 10 | 1,636,743.3 | 11 | 1,636,743.3 | 10 | 1,636,743.3 | 12 | 1,636,743.3 | 21 |
| | 141 | 1,947,072.4 | 50 | 1,947,072.4 | 81 | 1,947,072.4 | 74 | 1,947,072.4 | 60 | 1,947,072.4 | 123 | 1,947,072.4 | 312 |
| | 151 | 1,744,674.0 | 72 | 1,744,674.0 | 82 | 1,744,674.0 | 84 | 1,744,674.0 | 73 | 1,744,674.0 | 132 | 1,744,674.0 | 273 |
| nrw1379-c12-w75-3000-4000 | 51 | 919,078.2 | 0 | 919,078.2 | 0 | 919,078.2 | 0 | 919,078.2 | 0 | 919,078.2 | 0 | 919,078.2 | 0 |
| | 61 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 |
| | 71 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 2 |
| | 81 | 1,025,898.7 | 1 | 1,025,898.7 | 1 | 1,025,898.7 | 1 | 1,025,898.7 | 1 | 1,025,898.7 | 2 | 1,025,898.7 | 1 |
| | 91 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 5 |
| | 101 | 1,226,394.7 | 15 | 1,226,394.7 | 17 | 1,226,394.7 | 18 | 1,226,394.7 | 17 | 1,226,394.7 | 15 | 1,226,394.7 | 46 |
| | 111 | 1,435,718.4 | 7 | 1,435,718.4 | 7 | 1,435,718.4 | 8 | 1,435,718.4 | 8 | 1,435,718.4 | 21 | 1,435,718.4 | 24 |
| | 121 | 1,530,684.1 | 129 | 1,530,684.1 | 144 | 1,530,684.1 | 165 | 1,530,684.1 | 119 | 1,530,684.1 | 210 | 1,530,684.1 | 446 |
| | 131 | 1,540,241.7 | 11 | 1,540,241.7 | 12 | 1,540,241.7 | 15 | 1,540,241.7 | 24 | 1,540,241.7 | 41 | 1,540,241.7 | 284 |
| | 141 | 1,740,531.1 | 191 | 1,740,531.1 | 257 | 1,740,531.1 | 274 | 1,740,531.1 | 287 | 1,740,531.1 | 289 | 1,740,531.1 | 771 |
| | 151 | 1,743,031.4 | 7 | 1,743,031.4 | 8 | 1,743,031.4 | 8 | 1,743,031.4 | 9 | 1,743,031.4 | 9 | 1,743,031.4 | 14 |
| nrw1379-c12-w90-3000-4000 | 51 | 815,844.7 | 0 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 |
| | 61 | 1,222,464.7 | 1 | 1,222,464.7 | 1 | 1,222,464.7 | 1 | 1,222,464.7 | 1 | 1,222,464.7 | 1 | 1,222,464.7 | 1 |
| | 71 | 1,021,147.9 | 2 | 1,021,147.9 | 3 | 1,021,147.9 | 3 | 1,021,147.9 | 5 | 1,021,147.9 | 6 | 1,021,147.9 | 21 |
| | 81 | 1,023,927.9 | 5 | 1,023,927.9 | 7 | 1,023,927.9 | 9 | 1,023,927.9 | 7 | 1,023,927.9 | 15 | 1,023,927.9 | 127 |
| | 91 | 1,323,415.2 | 3 | 1,323,415.2 | 3 | 1,323,415.2 | 4 | 1,323,415.2 | 4 | 1,323,415.2 | 4 | 1,323,415.2 | 12 |
| | 101 | 1,427,820.5 | 8 | 1,427,820.5 | 9 | 1,427,820.5 | 10 | 1,427,820.5 | 10 | 1,427,820.5 | 10 | 1,427,820.5 | 25 |
| | 111 | 1,230,349.7 | 4 | 1,230,349.7 | 4 | 1,230,349.7 | 4 | 1,230,349.7 | 5 | 1,230,349.7 | 6 | 1,230,349.7 | 11 |
| | 121 | 1,334,007.7 | 7 | 1,334,007.7 | 8 | 1,334,007.7 | 9 | 1,334,007.7 | 8 | 1,334,007.7 | 10 | 1,334,007.7 | 22 |
| | 131 | 1,334,802.6 | 75 | 1,334,802.6 | 125 | 1,334,802.6 | 125 | 1,334,802.6 | 105 | 1,334,802.6 | 548 | 1,334,802.6 | 1975 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,638,931.5 | 308 | 1,638,931.5 | 333 | 1,638,931.5 | 377 | 1,638,931.5 | 319 | 1,638,931.5 | 188 | 1,638,931.5 | 621 |
| nrw1379-c12-w120-3000-4000 | 51 | 716,006.6 | 1 | 716,006.6 | 1 | 716,006.6 | 2 | 716,006.6 | 2 | 716,006.6 | 3 | 716,006.6 | 7 |
| | 61 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 |
| | 71 | 1,023,001.3 | 2 | 1,023,001.3 | 2 | 1,023,001.3 | 3 | 1,023,001.3 | 3 | 1,023,001.3 | 3 | 1,023,001.3 | 5 |
| | 81 | 1,023,491.5 | 21 | 1,023,491.5 | 24 | 1,023,491.5 | 27 | 1,023,491.5 | 28 | 1,023,491.5 | 43 | 1,023,491.5 | 75 |
| | 91 | 1,024,419.7 | 8 | 1,024,419.7 | 9 | 1,024,419.7 | 11 | 1,024,419.7 | 10 | 1,024,419.7 | 11 | 1,024,419.7 | 28 |
| | 101 | 1,230,640.6 | 95 | 1,230,640.6 | 101 | 1,230,640.6 | 114 | 1,230,640.6 | 117 | 1,230,640.6 | 140 | 1,230,640.6 | 233 |
| | 111 | 1,232,874.1 | 119 | 1,232,874.1 | 103 | 1,232,874.1 | 57 | 1,232,874.1 | 126 | 1,232,874.1 | 132 | 1,232,874.1 | 181 |
| | 121 | 1,332,623.4 | 851 | 1,332,623.4 | 934 | 1,332,623.4 | 1100 | 1,332,623.4 | 879 | 1,332,623.4 | 1081 | 1,332,623.4 | 1739 |
| | 131 | 1,436,919.9 | 1708 | 1,436,919.9 | 1707 | 1,436,919.9 | 2800 | 1,436,919.9 | 2314 | 1,436,919.9 | 3046 | – | – |
| | 141 | 1,639,581.6 | 36 | 1,639,581.6 | 39 | 1,639,581.6 | 51 | 1,639,581.6 | 52 | 1,639,581.6 | 50 | 1,639,581.6 | 141 |
| | 151 | 1,538,515.4 | 202 | 1,538,515.4 | 161 | 1,538,515.4 | 206 | 1,538,515.4 | 352 | 1,538,463.0 | 178 | 1,538,463.0 | 525 |
| Solved | | | 281 | | 281 | | 277 | | 276 | | 275 | | 262 |
| ⌀ Time | | | 170.0 | | 181.1 | | 174.0 | | 166.1 | | 185.7 | | 221.6 |

**Table 8: Detailed computational results $\delta = 0$ and with three stacks**

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w15-500-1000 | 51 | 704,358.0 | 1 | 704,358.0 | 1 | 704,358.0 | 1 | 704,358.0 | 1 | 704,358.0 | 2 | 704,358.0 | 3 |
| | 61 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 |
| | 71 | 905,856.9 | 5 | 905,856.9 | 5 | 905,856.9 | 6 | 905,856.9 | 5 | 905,856.9 | 6 | 905,856.9 | 16 |
| | 81 | 1,307,742.8 | 4 | 1,307,742.8 | 4 | 1,307,742.8 | 5 | 1,307,742.8 | 4 | 1,307,742.8 | 5 | 1,307,742.8 | 12 |
| | 91 | 1,308,213.1 | 67 | 1,308,213.1 | 71 | 1,308,213.1 | 80 | 1,308,213.1 | 71 | 1,308,213.1 | 82 | 1,308,213.1 | 444 |
| | 101 | 1,410,506.3 | 1 | 1,410,506.3 | 1 | 1,410,506.3 | 1 | 1,410,506.3 | 1 | 1,410,506.3 | 2 | 1,410,506.3 | 2 |
| | 111 | 1,712,047.7 | 4 | 1,712,047.7 | 4 | 1,712,047.7 | 4 | 1,712,047.7 | 4 | 1,712,047.7 | 5 | 1,712,047.7 | 12 |
| | 121 | 1,511,516.7 | 182 | 1,511,516.7 | 186 | 1,511,516.7 | 205 | 1,511,516.7 | 146 | 1,511,516.7 | 162 | 1,511,516.7 | 728 |
| | 131 | 1,612,149.7 | 12 | 1,612,149.7 | 12 | 1,612,149.7 | 14 | 1,612,149.7 | 13 | 1,612,149.7 | 15 | 1,612,149.7 | 143 |
| | 141 | 1,813,377.5 | 14 | 1,813,377.5 | 14 | 1,813,377.5 | 15 | 1,813,377.5 | 14 | 1,813,377.5 | 16 | 1,813,377.5 | 248 |
| | 151 | 1,914,668.6 | 24 | 1,914,668.6 | 24 | 1,914,668.6 | 27 | 1,914,668.6 | 26 | 1,914,668.6 | 29 | 1,914,668.6 | 70 |
| a280-c12-w15-1000-1200 | 51 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 |
| | 61 | 804,818.3 | 1 | 804,818.3 | 1 | 804,818.3 | 1 | 804,818.3 | 1 | 804,818.3 | 1 | 804,818.3 | 1 |
| | 71 | 906,053.2 | 1 | 906,053.2 | 1 | 906,053.2 | 1 | 906,053.2 | 2 | 906,053.2 | 2 | 906,053.2 | 2 |
| | 81 | 1,107,502.3 | 1 | 1,107,502.3 | 1 | 1,107,502.3 | 1 | 1,107,502.3 | 1 | 1,107,502.3 | 1 | 1,107,502.3 | 1 |
| | 91 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 6 | 1,208,755.0 | 12 |
| | 101 | 1,109,508.7 | 4 | 1,109,508.7 | 3 | 1,109,508.7 | 4 | 1,109,508.7 | 4 | 1,109,508.7 | 4 | 1,109,508.7 | 10 |
| | 111 | 1,210,448.9 | 97 | 1,210,448.9 | 100 | 1,210,448.9 | 110 | 1,210,448.9 | 70 | 1,210,448.9 | 131 | 1,210,448.9 | 118 |
| | 121 | 1,109,658.4 | 523 | 1,109,658.4 | 549 | 1,109,658.4 | 655 | 1,109,658.4 | 605 | 1,109,658.4 | 714 | 1,109,658.4 | 2602 |
| | 131 | 1,411,821.2 | 1190 | 1,411,821.2 | 1258 | 1,411,821.2 | 1550 | 1,411,821.2 | 1365 | 1,411,821.2 | 2023 | – | – |
| | 141 | 1,712,520.2 | 5 | 1,712,520.2 | 5 | 1,712,520.2 | 6 | 1,712,520.2 | 6 | 1,712,520.2 | 6 | 1,712,520.2 | 15 |
| | 151 | 1,613,821.7 | 1686 | 1,613,821.7 | 2065 | 1,613,821.7 | 1910 | 1,613,821.7 | 1603 | 1,613,821.7 | 1981 | – | – |
| a280-c12-w15-1500-2000 | 51 | 503,723.8 | 1 | 503,723.8 | 1 | 503,723.8 | 2 | 503,723.8 | 2 | 503,723.8 | 2 | 503,723.8 | 12 |
| | 61 | 604,679.4 | 3 | 604,679.4 | 3 | 604,679.4 | 3 | 604,679.4 | 3 | 604,679.4 | 3 | 604,679.4 | 22 |
| | 71 | 705,137.7 | 61 | 705,137.7 | 64 | 705,137.7 | 75 | 705,137.7 | 58 | 705,137.7 | 86 | 705,137.7 | 737 |
| | 81 | 706,430.9 | 5 | 706,430.9 | 5 | 706,430.9 | 6 | 706,430.9 | 6 | 706,430.9 | 7 | 706,430.9 | 60 |
| | 91 | 807,869.2 | 249 | 807,869.2 | 269 | 807,869.2 | 309 | 807,869.2 | 292 | 807,869.2 | 360 | 807,869.2 | 1949 |
| | 101 | 907,929.9 | 276 | 907,929.9 | 290 | 907,929.9 | 368 | 907,929.9 | 322 | 907,929.9 | 433 | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | 1,010,654.3 | 425 | 1,010,654.3 | 446 | 1,010,654.3 | 601 | 1,010,654.3 | 556 | 1,010,654.3 | 867 | – | – |
| | 131 | 1,110,354.4 | 3051 | 1,110,354.4 | 3273 | – | – | 1,110,354.4 | 2609 | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-500-1000 | 51 | 604,267.6 | 2 | 604,267.6 | 2 | 604,267.6 | 2 | 604,267.6 | 2 | 604,267.6 | 3 | 604,267.6 | 5 |
| | 61 | 705,243.8 | 20 | 705,243.8 | 21 | 705,243.8 | 26 | 705,243.8 | 19 | 705,243.8 | 21 | 705,243.8 | 650 |
| | 71 | 806,168.4 | 5 | 806,168.4 | 5 | 806,168.4 | 6 | 806,168.4 | 5 | 806,168.4 | 6 | 806,168.4 | 25 |
| | 81 | 1,007,693.1 | 55 | 1,007,693.1 | 56 | 1,007,693.1 | 66 | 1,007,693.1 | 78 | 1,007,693.1 | 97 | – | – |
| | 91 | 1,108,446.3 | 3 | 1,108,446.3 | 3 | 1,108,446.3 | 3 | 1,108,446.3 | 3 | 1,108,446.3 | 3 | 1,108,446.3 | 12 |
| | 101 | 1,209,053.0 | 46 | 1,209,053.0 | 48 | 1,209,053.0 | 52 | 1,209,053.0 | 40 | 1,209,053.0 | 45 | 1,209,053.0 | 146 |
| | 111 | 1,309,754.4 | 424 | 1,309,754.4 | 455 | 1,309,754.4 | 503 | 1,309,754.4 | 589 | 1,309,754.4 | 619 | – | – |
| | 121 | 1,410,716.8 | 2206 | 1,410,716.8 | 2287 | 1,410,716.8 | 2653 | 1,410,716.8 | 2472 | 1,410,716.8 | 2549 | 1,410,636.4 | 3498 |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | 1,512,681.0 | 396 | 1,512,681.0 | 391 | 1,512,681.0 | 440 | 1,512,681.0 | 436 | 1,512,681.0 | 473 | 1,512,681.0 | 2426 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-1000-1200 | 51 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 |
| | 61 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 |
| | 71 | 805,689.5 | 17 | 805,689.5 | 18 | 805,689.5 | 20 | 805,689.5 | 22 | 805,689.5 | 23 | 805,689.5 | 61 |
| | 81 | 1,006,722.9 | 2 | 1,006,722.9 | 2 | 1,006,722.9 | 2 | 1,006,722.9 | 2 | 1,006,722.9 | 2 | 1,006,722.9 | 3 |
| | 91 | 1,107,900.5 | 41 | 1,107,900.5 | 42 | 1,107,900.5 | 29 | 1,107,900.5 | 32 | 1,107,900.5 | 45 | 1,107,900.5 | 97 |
| | 101 | 1,108,956.7 | 37 | 1,108,956.7 | 35 | 1,108,956.7 | 39 | 1,108,956.7 | 32 | 1,108,956.7 | 33 | 1,108,956.7 | 79 |
| | 111 | 1,210,302.6 | 13 | 1,210,302.6 | 12 | 1,210,302.6 | 14 | 1,210,302.6 | 14 | 1,210,302.6 | 14 | 1,210,302.6 | 30 |
| | 121 | 1,311,254.9 | 15 | 1,311,254.9 | 16 | 1,311,254.9 | 18 | 1,311,254.9 | 17 | 1,311,254.9 | 20 | 1,311,254.9 | 247 |
| | 131 | 1,209,851.0 | 2048 | 1,209,851.0 | 2096 | 1,209,851.0 | 2744 | 1,209,791.7 | 608 | 1,209,791.7 | 536 | – | – |
| | 141 | 1,311,890.3 | 454 | 1,311,890.3 | 476 | 1,311,890.3 | 551 | 1,311,890.3 | 344 | 1,311,890.3 | 534 | 1,311,890.3 | 1762 |
| | 151 | 1,412,324.4 | 2715 | 1,412,324.4 | 2792 | – | – | – | – | – | – | – | – |

*Continued on next page*

Table 8 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w30-1500-2000 | 51 | 503,561.4 | 30 | 503,561.4 | 34 | 503,561.4 | 44 | 503,561.4 | 37 | 503,561.4 | 71 | 503,561.4 | 2159 |
| | 61 | 504,529.7 | 6 | 504,529.7 | 7 | 504,529.7 | 9 | 504,529.7 | 5 | 504,529.7 | 14 | 504,529.7 | 586 |
| | 71 | 606,090.7 | 63 | 606,090.7 | 64 | 606,090.7 | 80 | 606,090.7 | 102 | 606,090.7 | 83 | 606,090.7 | 1626 |
| | 81 | 706,249.4 | 124 | 706,249.4 | 135 | 706,249.4 | 189 | 706,249.4 | 169 | 706,249.4 | 309 | – | – |
| | 91 | 706,812.6 | 1823 | 706,812.6 | 1913 | 706,812.6 | 2332 | 706,812.6 | 2779 | 706,812.6 | 3412 | – | – |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | 808,614.4 | 30 | 808,614.4 | 30 | 808,614.4 | 36 | 808,614.4 | 35 | 808,614.4 | 41 | 808,614.4 | 241 |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-500-1000 | 51 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 3 | 604,119.7 | 2 | 604,119.7 | 3 | 604,119.7 | 7 |
| | 61 | 704,162.2 | 176 | 704,162.2 | 182 | 704,162.2 | 299 | 704,162.2 | 201 | 704,162.2 | 193 | – | – |
| | 71 | 805,104.4 | 16 | 805,104.4 | 17 | 805,104.4 | 19 | 805,104.4 | 17 | 805,104.4 | 19 | 805,104.4 | 217 |
| | 81 | 906,371.5 | 122 | 906,371.5 | 130 | 906,371.5 | 146 | 906,371.5 | 84 | 906,371.5 | 125 | 906,371.5 | 812 |
| | 91 | 907,150.1 | 70 | 907,150.1 | 72 | 907,150.1 | 83 | 907,150.1 | 222 | 907,150.1 | 706 | – | – |
| | 101 | 1,208,715.6 | 379 | 1,208,715.6 | 390 | 1,208,715.6 | 466 | 1,208,715.6 | 464 | 1,208,715.6 | 527 | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1000-1200 | 51 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 4 |
| | 61 | 504,150.0 | 3 | 504,150.0 | 3 | 504,150.0 | 3 | 504,150.0 | 3 | 504,150.0 | 3 | 504,150.0 | 10 |
| | 71 | 704,908.1 | 5 | 704,908.1 | 6 | 704,908.1 | 6 | 704,908.1 | 7 | 704,908.1 | 8 | 704,908.1 | 21 |
| | 81 | 806,493.1 | 141 | 806,493.1 | 143 | 806,493.1 | 90 | 806,493.1 | 101 | 806,493.1 | 121 | 806,493.1 | 257 |
| | 91 | 907,269.4 | 33 | 907,269.4 | 34 | 907,269.4 | 41 | 907,269.4 | 45 | 907,269.4 | 37 | 907,269.4 | 151 |
| | 101 | 1,008,563.6 | 8 | 1,008,563.6 | 8 | 1,008,563.6 | 8 | 1,008,563.6 | 8 | 1,008,563.6 | 9 | 1,008,563.6 | 22 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | 1,109,844.1 | 1505 | 1,109,844.1 | 1606 | 1,109,844.1 | 2038 | 1,109,844.1 | 1477 | 1,109,844.1 | 2127 | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | 1,312,054.7 | 3227 | 1,312,054.7 | 3498 | – | – |
| a280-c12-w45-1500-2000 | 51 | 503,493.1 | 2 | 503,493.1 | 3 | 503,493.1 | 3 | 503,493.1 | 3 | 503,493.1 | 3 | 503,493.1 | 19 |
| | 61 | 604,088.7 | 45 | 604,088.7 | 45 | 604,088.7 | 59 | 604,088.7 | 59 | 604,088.7 | 71 | 604,088.7 | 621 |
| | 71 | 604,752.6 | 620 | 604,752.6 | 1256 | 604,752.6 | 2322 | – | – | – | – | – | – |
| | 81 | 606,558.4 | 101 | 606,558.4 | 107 | 606,558.4 | 119 | 606,558.4 | 142 | 606,558.4 | 143 | 606,558.4 | 676 |
| | 91 | 706,935.5 | 18 | 706,935.5 | 19 | 706,935.5 | 21 | 706,935.5 | 17 | 706,935.5 | 19 | 706,935.5 | 65 |
| | 101 | 709,569.6 | 1242 | 709,569.6 | 1642 | 709,569.6 | 1646 | 709,569.6 | 2017 | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| brd14051-c12-w45-3000-4000 | 51 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 |
| | 61 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| | 71 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 |
| | 81 | 1,336,264.6 | 11 | 1,336,264.6 | 11 | 1,336,264.6 | 12 | 1,336,264.6 | 11 | 1,336,264.6 | 12 | 1,336,264.6 | 20 |
| | 91 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 |
| | 101 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 |
| | 111 | 2,052,469.4 | 2 | 2,052,469.4 | 3 | 2,052,469.4 | 3 | 2,052,469.4 | 3 | 2,052,469.4 | 3 | 2,052,469.4 | 3 |
| | 121 | 2,057,345.9 | 216 | 2,057,345.9 | 222 | 2,057,345.9 | 240 | 2,057,345.9 | 323 | 2,057,345.9 | 345 | 2,057,345.9 | 746 |
| | 131 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 |
| | 141 | 2,468,906.2 | 2 | 2,468,906.2 | 2 | 2,468,906.2 | 2 | 2,468,906.2 | 2 | 2,468,906.2 | 2 | 2,468,906.2 | 7 |
| | 151 | 2,570,792.6 | 5 | 2,570,792.6 | 5 | 2,570,792.6 | 6 | 2,570,792.6 | 6 | 2,570,792.6 | 7 | 2,570,792.6 | 14 |

*Continued on next page*

Table 8 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| brd14051-c12-w60-3000-4000 | 51 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 |
| | 61 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 |
| | 71 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 |
| | 81 | 1,639,313.8 | 0 | 1,639,313.8 | 0 | 1,639,313.8 | 1 | 1,639,313.8 | 1 | 1,639,313.8 | 1 | 1,639,313.8 | 1 |
| | 91 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 3 |
| | 101 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 4 |
| | 111 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 5 |
| | 121 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 2 |
| | 131 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 |
| | 141 | 2,262,338.5 | 149 | 2,262,338.5 | 155 | 2,262,338.5 | 165 | 2,262,338.5 | 172 | 2,262,338.5 | 103 | 2,262,338.5 | 107 |
| | 151 | 2,469,678.6 | 172 | 2,469,678.6 | 185 | 2,469,678.6 | 252 | 2,469,678.6 | 195 | 2,469,678.6 | 237 | 2,469,678.6 | 2467 |
| brd14051-c12-w75-3000-4000 | 51 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 1 | 1,025,843.4 | 0 |
| | 61 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 |
| | 71 | 1,434,817.6 | 9 | 1,434,817.6 | 9 | 1,434,817.6 | 9 | 1,434,817.6 | 9 | 1,434,817.6 | 9 | 1,434,817.6 | 12 |
| | 81 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 |
| | 91 | 1,539,992.0 | 1269 | 1,539,992.0 | 1258 | 1,539,992.0 | 1272 | 1,539,992.0 | 1301 | 1,539,992.0 | 1308 | 1,539,992.0 | 1484 |
| | 101 | 1,852,282.5 | 82 | 1,852,282.5 | 85 | 1,852,282.5 | 93 | 1,852,282.5 | 84 | 1,852,282.5 | 88 | 1,852,282.5 | 138 |
| | 111 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 3 |
| | 121 | 1,955,832.7 | 2 | 1,955,832.7 | 2 | 1,955,832.7 | 2 | 1,955,832.7 | 2 | 1,955,832.7 | 2 | 1,955,832.7 | 2 |
| | 131 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 2 |
| | 141 | 1,850,276.8 | 3 | 1,850,276.8 | 4 | 1,850,276.8 | 4 | 1,850,276.8 | 4 | 1,850,276.8 | 4 | 1,850,276.8 | 6 |
| | 151 | 2,055,058.8 | 33 | 2,055,058.8 | 35 | 2,055,058.8 | 38 | 2,055,058.8 | 42 | 2,055,058.8 | 47 | 2,055,058.8 | 252 |
| brd14051-c12-w90-3000-4000 | 51 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 |
| | 61 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 |
| | 71 | 1,331,512.0 | 0 | 1,331,512.0 | 0 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 |
| | 81 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 |
| | 91 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 3 |
| | 101 | 1,753,074.5 | 1 | 1,753,074.5 | 1 | 1,753,074.5 | 1 | 1,753,074.5 | 1 | 1,753,074.5 | 1 | 1,753,074.5 | 3 |
| | 111 | 1,543,238.8 | 4 | 1,543,238.8 | 5 | 1,543,238.8 | 5 | 1,543,238.8 | 5 | 1,543,238.8 | 5 | 1,543,238.8 | 11 |
| | 121 | 2,057,692.2 | 36 | 2,057,692.2 | 38 | 2,057,692.2 | 45 | 2,057,692.2 | 39 | 2,057,692.2 | 49 | 2,057,692.2 | 205 |
| | 131 | 2,067,039.1 | 2 | 2,067,039.1 | 2 | 2,067,039.1 | 2 | 2,067,039.1 | 2 | 2,067,039.1 | 3 | 2,067,039.1 | 6 |
| | 141 | 2,256,332.6 | 68 | 2,256,332.6 | 70 | 2,256,332.6 | 73 | 2,256,332.6 | 76 | 2,256,332.6 | 87 | 2,256,332.6 | 213 |
| | 151 | 1,957,314.5 | 12 | 1,957,314.5 | 12 | 1,957,314.5 | 13 | 1,957,314.5 | 13 | 1,957,314.5 | 16 | 1,957,314.5 | 65 |
| brd14051-c12-w120-3000-4000 | 51 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 |
| | 61 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 1 |
| | 71 | 1,233,936.5 | 1 | 1,233,936.5 | 1 | 1,233,936.5 | 1 | 1,233,936.5 | 1 | 1,233,936.5 | 1 | 1,233,936.5 | 2 |
| | 81 | 1,335,699.7 | 1 | 1,335,699.7 | 1 | 1,335,699.7 | 1 | 1,335,699.7 | 2 | 1,335,699.7 | 2 | 1,335,699.7 | 2 |
| | 91 | 1,444,717.8 | 1 | 1,444,717.8 | 1 | 1,444,717.8 | 1 | 1,444,717.8 | 1 | 1,444,717.8 | 1 | 1,444,717.8 | 1 |
| | 101 | 1,849,460.7 | 3 | 1,849,460.7 | 3 | 1,849,460.7 | 3 | 1,849,460.7 | 3 | 1,849,460.7 | 3 | 1,849,460.7 | 4 |
| | 111 | 1,539,836.6 | 57 | 1,539,836.6 | 58 | 1,539,836.6 | 64 | 1,539,836.6 | 12 | 1,539,836.6 | 13 | 1,539,836.6 | 33 |
| | 121 | 1,752,085.8 | 98 | 1,752,085.8 | 100 | 1,752,085.8 | 105 | 1,752,085.8 | 104 | 1,752,085.8 | 112 | 1,752,085.8 | 146 |
| | 131 | 1,857,733.7 | 3 | 1,857,733.7 | 3 | 1,857,733.7 | 3 | 1,857,733.7 | 3 | 1,857,733.7 | 3 | 1,857,733.7 | 4 |
| | 141 | 1,955,906.1 | 122 | 1,955,906.1 | 127 | 1,955,906.1 | 178 | 1,955,906.1 | 51 | 1,955,906.1 | 61 | 1,955,906.1 | 2039 |
| | 151 | 1,854,602.8 | 655 | 1,854,602.8 | 681 | 1,854,602.8 | 1031 | 1,854,602.8 | 1005 | 1,854,602.8 | 1947 | – | – |
| d18512-c12-w45-3000-4000 | 51 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 |
| | 61 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 |
| | 71 | 1,435,205.2 | 3 | 1,435,205.2 | 3 | 1,435,205.2 | 4 | 1,435,205.2 | 3 | 1,435,205.2 | 4 | 1,435,205.2 | 5 |
| | 81 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 |
| | 91 | 1,643,183.4 | 1 | 1,643,183.4 | 1 | 1,643,183.4 | 1 | 1,643,183.4 | 1 | 1,643,183.4 | 1 | 1,643,183.4 | 1 |
| | 101 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 3 |
| | 111 | 2,057,469.8 | 3 | 2,057,469.8 | 3 | 2,057,469.8 | 3 | 2,057,469.8 | 3 | 2,057,469.8 | 4 | 2,057,469.8 | 6 |
| | 121 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 |
| | 131 | 2,264,680.1 | 9 | 2,264,680.1 | 10 | 2,264,680.1 | 10 | 2,264,680.1 | 10 | 2,264,680.1 | 11 | 2,264,680.1 | 35 |
| | 141 | 2,470,199.4 | 2 | 2,470,199.4 | 2 | 2,470,199.4 | 2 | 2,470,199.4 | 2 | 2,470,199.4 | 3 | 2,470,199.4 | 7 |
| | 151 | 2,364,931.9 | 22 | 2,364,931.9 | 22 | 2,364,931.9 | 23 | 2,364,931.9 | 24 | 2,364,931.9 | 24 | 2,364,931.9 | 18 |

*Continued on next page*

Table 8 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| d18512-c12-w60-3000-4000 | 51 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 |
| | 61 | 1,129,637.7 | 81 | 1,129,637.7 | 81 | 1,129,637.7 | 82 | 1,129,637.7 | 83 | 1,129,637.7 | 84 | 1,129,637.7 | 97 |
| | 71 | 1,332,573.3 | 0 | 1,332,573.3 | 0 | 1,332,573.3 | 1 | 1,332,573.3 | 0 | 1,332,573.3 | 1 | 1,332,573.3 | 1 |
| | 81 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 |
| | 91 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 |
| | 101 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 7 |
| | 111 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 8 |
| | 121 | 2,369,386.9 | 2 | 2,369,386.9 | 2 | 2,369,386.9 | 2 | 2,369,386.9 | 2 | 2,369,386.9 | 2 | 2,369,386.9 | 10 |
| | 131 | 2,163,246.2 | 5 | 2,163,246.2 | 5 | 2,163,246.2 | 5 | 2,163,246.2 | 5 | 2,163,246.2 | 6 | 2,163,246.2 | 43 |
| | 141 | 2,058,465.5 | 490 | 2,058,465.5 | 546 | 2,058,465.5 | 750 | 2,058,465.5 | 555 | 2,058,465.5 | 968 | – | – |
| | 151 | 2,471,999.8 | 4 | 2,471,999.8 | 4 | 2,471,999.8 | 4 | 2,471,999.8 | 4 | 2,471,999.8 | 4 | 2,471,999.8 | 8 |
| d18512-c12-w75-3000-4000 | 51 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 |
| | 61 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 |
| | 71 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 |
| | 81 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 1 |
| | 91 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 |
| | 101 | 1,643,577.1 | 225 | 1,643,577.1 | 234 | 1,643,577.1 | 257 | 1,643,577.1 | 240 | 1,643,577.1 | 275 | 1,643,577.1 | 684 |
| | 111 | 1,853,832.7 | 1 | 1,853,832.7 | 1 | 1,853,832.7 | 1 | 1,853,832.7 | 1 | 1,853,832.7 | 2 | 1,853,832.7 | 2 |
| | 121 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 2 | 2,162,731.8 | 2 | 2,162,731.8 | 2 | 2,162,731.8 | 2 |
| | 131 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 3 |
| | 141 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 5 | 2,161,955.3 | 5 | 2,161,955.3 | 9 |
| | 151 | 2,063,898.0 | 41 | 2,063,898.0 | 42 | 2,063,898.0 | 49 | 2,063,898.0 | 92 | 2,063,898.0 | 63 | 2,063,898.0 | 218 |
| d18512-c12-w90-3000-4000 | 51 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 |
| | 61 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 1 |
| | 71 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 2 |
| | 81 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 2 |
| | 91 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 |
| | 101 | 1,643,364.4 | 2 | 1,643,364.4 | 2 | 1,643,364.4 | 2 | 1,643,364.4 | 2 | 1,643,364.4 | 2 | 1,643,364.4 | 5 |
| | 111 | 1,951,188.5 | 1 | 1,951,188.5 | 1 | 1,951,188.5 | 1 | 1,951,188.5 | 1 | 1,951,188.5 | 1 | 1,951,188.5 | 2 |
| | 121 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 6 |
| | 131 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 8 |
| | 141 | 1,955,788.1 | 8 | 1,955,788.1 | 8 | 1,955,788.1 | 9 | 1,955,788.1 | 9 | 1,955,788.1 | 10 | 1,955,788.1 | 30 |
| | 151 | 2,467,660.9 | 104 | 2,467,660.9 | 110 | 2,467,660.9 | 143 | 2,467,660.9 | 166 | 2,467,660.9 | 157 | – | – |
| d18512-c12-w120-3000-4000 | 51 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 |
| | 61 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 |
| | 71 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 |
| | 81 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 4 | 1,233,144.8 | 5 |
| | 91 | 1,442,136.0 | 2 | 1,442,136.0 | 2 | 1,442,136.0 | 2 | 1,442,136.0 | 2 | 1,442,136.0 | 2 | 1,442,136.0 | 2 |
| | 101 | 1,545,265.4 | 2 | 1,545,265.4 | 3 | 1,545,265.4 | 3 | 1,545,265.4 | 3 | 1,545,265.4 | 3 | 1,545,265.4 | 10 |
| | 111 | 1,749,053.5 | 2 | 1,749,053.5 | 2 | 1,749,053.5 | 2 | 1,749,053.5 | 1 | 1,749,053.5 | 2 | 1,749,053.5 | 3 |
| | 121 | 1,958,857.7 | 3 | 1,958,857.7 | 3 | 1,958,857.7 | 3 | 1,958,857.7 | 3 | 1,958,857.7 | 3 | 1,958,857.7 | 6 |
| | 131 | 1,749,662.0 | 2517 | 1,749,662.0 | 2585 | 1,749,662.0 | 3592 | 1,749,662.0 | 3584 | 1,749,662.0 | 2132 | – | – |
| | 141 | 1,955,366.4 | 282 | 1,955,366.4 | 279 | 1,955,366.4 | 317 | 1,955,366.4 | 309 | 1,955,366.4 | 362 | 1,955,366.4 | 1154 |
| | 151 | 2,059,976.1 | 19 | 2,059,976.1 | 19 | 2,059,976.1 | 23 | 2,059,976.1 | 20 | 2,059,976.1 | 25 | 2,059,976.1 | 357 |
| fn14461-c12-w45-3000-4000 | 51 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 |
| | 61 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 |
| | 71 | 917,355.6 | 4 | 917,355.6 | 4 | 917,355.6 | 4 | 917,355.6 | 4 | 917,355.6 | 4 | 917,355.6 | 7 |
| | 81 | 921,221.2 | 5 | 921,221.2 | 5 | 921,221.2 | 6 | 921,221.2 | 6 | 921,221.2 | 8 | 921,221.2 | 10 |
| | 91 | 1,021,195.6 | 16 | 1,021,195.6 | 16 | 1,021,195.6 | 18 | 1,021,195.6 | 20 | 1,021,195.6 | 22 | 1,021,195.6 | 47 |
| | 101 | 1,227,378.3 | 6 | 1,227,378.3 | 6 | 1,227,378.3 | 6 | 1,227,378.3 | 6 | 1,227,378.3 | 7 | 1,227,378.3 | 14 |
| | 111 | 1,329,296.4 | 28 | 1,329,296.4 | 27 | 1,329,296.4 | 32 | 1,329,296.4 | 28 | 1,329,296.4 | 22 | 1,329,296.4 | 42 |
| | 121 | 1,431,497.8 | 16 | 1,431,497.8 | 16 | 1,431,497.8 | 18 | 1,431,497.8 | 17 | 1,431,497.8 | 18 | 1,431,497.8 | 37 |
| | 131 | 1,540,748.8 | 5 | 1,540,748.8 | 5 | 1,540,748.8 | 5 | 1,540,748.8 | 5 | 1,540,748.8 | 6 | 1,540,748.8 | 8 |
| | 141 | 1,642,564.8 | 100 | 1,642,564.8 | 101 | 1,642,564.8 | 111 | 1,642,564.8 | 243 | 1,642,564.8 | 153 | 1,642,564.8 | 286 |
| | 151 | 1,638,676.9 | 40 | 1,638,676.9 | 41 | 1,638,676.9 | 45 | 1,638,676.9 | 38 | 1,638,676.9 | 40 | 1,638,676.9 | 104 |

*Continued on next page*

Table 8 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| fnl4461-c12-w60-3000-4000 | 51 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 2 |
| | 61 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 2 |
| | 71 | 819,134.2 | 8 | 819,134.2 | 7 | 819,134.2 | 8 | 819,134.2 | 8 | 819,134.2 | 9 | 819,134.2 | 27 |
| | 81 | 921,097.5 | 18 | 921,097.5 | 18 | 921,097.5 | 19 | 921,097.5 | 21 | 921,097.5 | 22 | 921,097.5 | 33 |
| | 91 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 6 |
| | 101 | 1,125,924.1 | 38 | 1,125,924.1 | 39 | 1,125,924.1 | 52 | 1,125,924.1 | 40 | 1,125,924.1 | 44 | 1,125,924.1 | 152 |
| | 111 | 1,329,538.8 | 16 | 1,329,538.8 | 16 | 1,329,538.8 | 17 | 1,329,538.8 | 19 | 1,329,538.8 | 18 | 1,329,538.8 | 42 |
| | 121 | 1,230,909.8 | 17 | 1,230,909.8 | 17 | 1,230,909.8 | 18 | 1,230,909.8 | 20 | 1,230,909.8 | 21 | 1,230,909.8 | 84 |
| | 131 | 1,538,343.5 | 292 | 1,538,343.5 | 291 | 1,538,343.5 | 326 | 1,538,343.5 | 396 | 1,538,343.5 | 365 | 1,538,343.5 | 733 |
| | 141 | 1,438,867.9 | 659 | 1,438,867.9 | 662 | 1,438,867.9 | 641 | 1,438,867.9 | 666 | 1,438,867.9 | 741 | 1,438,867.9 | 3145 |
| | 151 | 1,538,532.2 | 2654 | 1,538,532.2 | 2657 | 1,538,532.2 | 3369 | 1,538,532.2 | 3356 | 1,538,532.2 | 3470 | – | – |
| fnl4461-c12-w75-3000-4000 | 51 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 1 | 714,577.2 | 1 | 714,577.2 | 1 | 714,577.2 | 1 |
| | 61 | 717,332.9 | 1 | 717,332.9 | 1 | 717,332.9 | 1 | 717,332.9 | 1 | 717,332.9 | 1 | 717,332.9 | 1 |
| | 71 | 818,324.2 | 2 | 818,324.2 | 2 | 818,324.2 | 2 | 818,324.2 | 2 | 818,324.2 | 2 | 818,324.2 | 3 |
| | 81 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 3 | 919,078.2 | 3 | 919,078.2 | 2 | 919,078.2 | 7 |
| | 91 | 1,022,952.2 | 3 | 1,022,952.2 | 3 | 1,022,952.2 | 4 | 1,022,952.2 | 4 | 1,022,952.2 | 4 | 1,022,952.2 | 9 |
| | 101 | 1,225,360.3 | 57 | 1,225,360.3 | 59 | 1,225,360.3 | 69 | 1,225,360.3 | 61 | 1,225,360.3 | 70 | 1,225,360.3 | 189 |
| | 111 | 1,130,018.5 | 49 | 1,130,018.5 | 50 | 1,130,018.5 | 52 | 1,130,018.5 | 51 | 1,130,018.5 | 53 | 1,130,018.5 | 90 |
| | 121 | 1,333,932.4 | 119 | 1,333,932.4 | 122 | 1,333,932.4 | 135 | 1,333,932.4 | 131 | 1,333,932.4 | 129 | 1,333,932.4 | 252 |
| | 131 | 1,434,567.2 | 177 | 1,434,567.2 | 176 | 1,434,567.2 | 197 | 1,434,567.2 | 226 | 1,434,567.2 | 278 | 1,434,567.2 | 1337 |
| | 141 | 1,537,958.0 | 147 | 1,537,958.0 | 149 | 1,537,958.0 | 170 | 1,537,958.0 | 214 | 1,537,958.0 | 178 | 1,537,958.0 | 601 |
| | 151 | 1,440,924.3 | 162 | 1,440,924.3 | 166 | 1,440,924.3 | 202 | 1,440,924.3 | 220 | 1,440,924.3 | 263 | 1,440,924.3 | 2940 |
| fnl4461-c12-w90-3000-4000 | 51 | 714,229.4 | 1 | 714,229.4 | 1 | 714,229.4 | 1 | 714,229.4 | 1 | 714,229.4 | 1 | 714,229.4 | 1 |
| | 61 | 817,013.2 | 169 | 817,013.2 | 165 | 817,013.2 | 178 | 817,013.2 | 192 | 817,013.2 | 191 | 817,013.2 | 261 |
| | 71 | 815,054.6 | 3 | 815,054.6 | 3 | 815,054.6 | 4 | 815,054.6 | 4 | 815,054.6 | 4 | 815,054.6 | 10 |
| | 81 | 921,498.3 | 4 | 921,498.3 | 4 | 921,498.3 | 4 | 921,498.3 | 3 | 921,498.3 | 4 | 921,498.3 | 7 |
| | 91 | 923,090.8 | 12 | 923,090.8 | 12 | 923,090.8 | 14 | 923,090.8 | 17 | 923,090.8 | 15 | 923,090.8 | 36 |
| | 101 | 1,126,342.8 | 301 | 1,126,342.8 | 308 | 1,126,342.8 | 358 | 1,126,342.8 | 263 | 1,126,342.8 | 348 | – | – |
| | 111 | 1,227,372.2 | 319 | 1,227,372.2 | 322 | 1,227,372.2 | 445 | 1,227,372.2 | 558 | 1,227,372.2 | 527 | – | – |
| | 121 | 1,331,080.0 | 151 | 1,331,080.0 | 157 | 1,331,080.0 | 184 | 1,331,080.0 | 175 | 1,331,080.0 | 219 | 1,331,080.0 | 1379 |
| | 131 | 1,230,658.8 | 684 | 1,230,658.8 | 695 | 1,230,658.8 | 870 | 1,230,658.8 | 504 | 1,230,658.8 | 625 | – | – |
| | 141 | 1,336,169.2 | 596 | 1,336,169.2 | 617 | 1,336,169.2 | 678 | 1,336,169.2 | 686 | 1,336,169.2 | 755 | 1,336,169.2 | 2055 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w120-3000-4000 | 51 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 3 | 610,649.0 | 2 | 610,649.0 | 3 | 610,649.0 | 13 |
| | 61 | 615,855.5 | 3 | 615,855.5 | 3 | 615,855.5 | 3 | 615,855.5 | 3 | 615,855.5 | 4 | 615,855.5 | 17 |
| | 71 | 617,258.2 | 3 | 617,258.2 | 3 | 617,258.2 | 3 | 617,258.2 | 4 | 617,258.2 | 4 | 617,258.2 | 46 |
| | 81 | 819,609.3 | 174 | 819,609.3 | 184 | 819,609.3 | 210 | 819,609.3 | 167 | 819,609.3 | 366 | – | – |
| | 91 | 819,189.6 | 83 | 819,189.6 | 91 | 819,189.6 | 113 | 819,189.6 | 82 | 819,189.6 | 119 | – | – |
| | 101 | 1,026,917.6 | 520 | 1,026,917.6 | 552 | 1,026,917.6 | 700 | 1,026,917.6 | 789 | 1,026,917.6 | 1040 | – | – |
| | 111 | 1,025,469.6 | 1752 | 1,025,469.6 | 1501 | 1,025,469.6 | 2037 | 1,025,469.6 | 2895 | 1,025,469.6 | 2379 | – | – |
| | 121 | 1,128,918.1 | 108 | 1,128,918.1 | 128 | 1,128,918.1 | 163 | 1,128,918.1 | 113 | 1,128,899.5 | 1283 | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| nrw1379-c12-w45-3000-4000 | 51 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 |
| | 61 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 2 |
| | 71 | 1,121,008.4 | 1 | 1,121,008.4 | 1 | 1,121,008.4 | 1 | 1,121,008.4 | 1 | 1,121,008.4 | 1 | 1,121,008.4 | 1 |
| | 81 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 3 | 1,231,183.1 | 3 | 1,231,183.1 | 3 | 1,231,183.1 | 3 |
| | 91 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 |
| | 101 | 1,329,356.9 | 12 | 1,329,356.9 | 12 | 1,329,356.9 | 12 | 1,329,356.9 | 24 | 1,329,356.9 | 27 | 1,329,356.9 | 14 |
| | 111 | 1,434,738.9 | 14 | 1,434,738.9 | 14 | 1,434,738.9 | 15 | 1,434,738.9 | 16 | 1,434,738.9 | 10 | 1,434,738.9 | 14 |
| | 121 | 1,538,975.6 | 28 | 1,538,975.6 | 29 | 1,538,975.6 | 31 | 1,538,975.6 | 31 | 1,538,975.6 | 32 | 1,538,975.6 | 49 |
| | 131 | 1,840,937.1 | 51 | 1,840,937.1 | 52 | 1,840,937.1 | 55 | 1,840,937.1 | 50 | 1,840,937.1 | 51 | 1,840,937.1 | 126 |
| | 141 | 1,945,073.1 | 48 | 1,945,073.1 | 49 | 1,945,073.1 | 56 | 1,945,073.1 | 57 | 1,945,073.1 | 62 | 1,945,073.1 | 205 |
| | 151 | 2,050,358.3 | 5 | 2,050,358.3 | 5 | 2,050,358.3 | 5 | 2,050,358.3 | 5 | 2,050,358.3 | 5 | 2,050,358.3 | 7 |

*Continued on next page*

Table 8 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| nrw1379-c12-w60-3000-4000 | 51 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 |
| | 61 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 4 |
| | 71 | 1,122,155.8 | 2 | 1,122,155.8 | 2 | 1,122,155.8 | 2 | 1,122,155.8 | 3 | 1,122,155.8 | 3 | 1,122,155.8 | 3 |
| | 81 | 1,226,526.1 | 1 | 1,226,526.1 | 1 | 1,226,526.1 | 1 | 1,226,526.1 | 1 | 1,226,526.1 | 1 | 1,226,526.1 | 2 |
| | 91 | 1,228,044.8 | 8 | 1,228,044.8 | 8 | 1,228,044.8 | 8 | 1,228,044.8 | 8 | 1,228,044.8 | 9 | 1,228,044.8 | 18 |
| | 101 | 1,331,871.7 | 2 | 1,331,871.7 | 2 | 1,331,871.7 | 2 | 1,331,871.7 | 3 | 1,331,871.7 | 3 | 1,331,871.7 | 3 |
| | 111 | 1,634,584.2 | 3 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 5 | 1,634,584.2 | 6 |
| | 121 | 1,539,615.2 | 120 | 1,539,615.2 | 124 | 1,539,615.2 | 138 | 1,539,615.2 | 129 | 1,539,615.2 | 91 | 1,539,615.2 | 301 |
| | 131 | 1,637,630.4 | 95 | 1,637,630.4 | 94 | 1,637,630.4 | 107 | 1,637,630.4 | 93 | 1,637,630.4 | 121 | 1,637,630.4 | 227 |
| | 141 | 1,946,218.6 | 35 | 1,946,218.6 | 37 | 1,946,218.6 | 44 | 1,946,218.6 | 44 | 1,946,218.6 | 27 | 1,946,218.6 | 195 |
| | 151 | 1,743,758.8 | 183 | 1,743,758.8 | 191 | 1,743,758.8 | 224 | 1,743,758.8 | 326 | 1,743,758.8 | 216 | 1,743,758.8 | 1293 |
| nrw1379-c12-w75-3000-4000 | 51 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 1 |
| | 61 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 |
| | 71 | 1,020,804.5 | 1 | 1,020,804.5 | 1 | 1,020,804.5 | 2 | 1,020,804.5 | 2 | 1,020,804.5 | 1 | 1,020,804.5 | 4 |
| | 81 | 1,124,893.0 | 11 | 1,124,893.0 | 11 | 1,124,893.0 | 12 | 1,124,893.0 | 12 | 1,124,893.0 | 11 | 1,124,893.0 | 20 |
| | 91 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 4 | 1,229,438.5 | 4 | 1,229,438.5 | 4 | 1,229,438.5 | 7 |
| | 101 | 1,127,693.7 | 11 | 1,127,693.7 | 11 | 1,127,693.7 | 12 | 1,127,693.7 | 18 | 1,127,693.7 | 18 | 1,127,693.7 | 34 |
| | 111 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 9 |
| | 121 | 1,433,265.8 | 157 | 1,433,265.8 | 109 | 1,433,265.8 | 175 | 1,433,265.8 | 110 | 1,433,265.8 | 87 | 1,433,265.8 | 160 |
| | 131 | 1,537,208.9 | 8 | 1,537,208.9 | 8 | 1,537,208.9 | 9 | 1,537,208.9 | 8 | 1,537,208.9 | 11 | 1,537,208.9 | 34 |
| | 141 | 1,642,615.6 | 72 | 1,642,615.6 | 72 | 1,642,615.6 | 88 | 1,642,615.6 | 86 | 1,642,615.6 | 110 | 1,642,615.6 | 496 |
| | 151 | 1,644,331.9 | 411 | 1,644,331.9 | 418 | 1,644,331.9 | 543 | 1,644,331.9 | 546 | 1,644,331.9 | 562 | 1,644,331.9 | 787 |
| nrw1379-c12-w90-3000-4000 | 51 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 |
| | 61 | 1,222,461.1 | 1 | 1,222,461.1 | 1 | 1,222,461.1 | 1 | 1,222,461.1 | 1 | 1,222,461.1 | 1 | 1,222,461.1 | 1 |
| | 71 | 1,021,147.9 | 4 | 1,021,147.9 | 4 | 1,021,147.9 | 6 | 1,021,147.9 | 6 | 1,021,147.9 | 7 | 1,021,147.9 | 560 |
| | 81 | 1,023,927.9 | 8 | 1,023,927.9 | 9 | 1,023,927.9 | 14 | 1,023,927.9 | 12 | 1,023,927.9 | 21 | 1,023,927.9 | 1247 |
| | 91 | 1,323,415.2 | 4 | 1,323,415.2 | 4 | 1,323,415.2 | 5 | 1,323,415.2 | 5 | 1,323,415.2 | 6 | 1,323,415.2 | 42 |
| | 101 | 1,330,076.4 | 8 | 1,330,076.4 | 8 | 1,330,076.4 | 10 | 1,330,076.4 | 9 | 1,330,076.4 | 11 | 1,330,076.4 | 39 |
| | 111 | 1,230,435.8 | 3 | 1,230,435.8 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 11 |
| | 121 | 1,333,888.5 | 7 | 1,333,888.5 | 8 | 1,333,888.5 | 8 | 1,333,888.5 | 8 | 1,333,888.5 | 9 | 1,333,888.5 | 38 |
| | 131 | 1,333,662.5 | 22 | 1,333,662.5 | 23 | 1,333,662.5 | 36 | 1,333,662.5 | 26 | 1,333,662.5 | 35 | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,638,614.1 | 903 | 1,638,614.1 | 922 | 1,638,614.1 | 886 | 1,638,614.1 | 804 | 1,638,614.1 | 816 | 1,638,614.1 | 3534 |
| nrw1379-c12-w120-3000-4000 | 51 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 2 | 615,497.9 | 56 |
| | 61 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 |
| | 71 | 1,023,083.2 | 5 | 1,023,083.2 | 5 | 1,023,083.2 | 6 | 1,023,083.2 | 5 | 1,023,083.2 | 6 | 1,023,083.2 | 20 |
| | 81 | 923,988.8 | 15 | 923,988.8 | 15 | 923,988.8 | 17 | 923,988.8 | 14 | 923,988.8 | 12 | 923,988.8 | 42 |
| | 91 | 1,023,007.4 | 6 | 1,023,007.4 | 6 | 1,023,007.4 | 8 | 1,023,007.4 | 6 | 1,023,007.4 | 7 | 1,023,007.4 | 25 |
| | 101 | 1,229,648.7 | 29 | 1,229,648.7 | 29 | 1,229,648.7 | 32 | 1,229,648.7 | 42 | 1,229,648.7 | 42 | 1,229,648.7 | 71 |
| | 111 | 1,231,008.5 | 231 | 1,231,008.5 | 232 | 1,231,008.5 | 252 | 1,231,008.5 | 200 | 1,231,008.5 | 270 | 1,231,008.5 | 847 |
| | 121 | 1,233,649.5 | 3130 | 1,233,649.5 | 3191 | 1,233,649.5 | 3483 | 1,233,649.5 | 2083 | 1,233,649.5 | 2912 | – | – |
| | 131 | 1,433,676.9 | 2652 | 1,433,676.9 | 2587 | – | – | 1,433,676.9 | 2670 | – | – | – | – |
| | 141 | 1,639,335.0 | 86 | 1,639,335.0 | 87 | 1,639,335.0 | 106 | 1,639,335.0 | 95 | 1,639,335.0 | 105 | 1,639,335.0 | 496 |
| | 151 | 1,440,262.7 | 218 | 1,440,262.7 | 218 | 1,440,262.7 | 248 | 1,440,262.7 | 460 | 1,440,262.7 | 1107 | – | – |
| Solved | | | 290 | | 290 | | 287 | | 289 | | 286 | | 256 |
| ∅ Time | | | 165.6 | | 173.9 | | 175.5 | | 182.4 | | 185.0 | | 233.0 |

**Table 9: Detailed computational results $\delta = 1$ and with two stacks**

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w15-500-1000 | 51 | 704,358.0 | 2 | 704,358.0 | 2 | 704,358.0 | 2 | 704,358.0 | 3 | 704,358.0 | 3 | 704,358.0 | 4 |
| | 61 | 905,077.1 | 1 | 905,077.1 | 1 | 905,077.1 | 1 | 905,077.1 | 1 | 905,077.1 | 1 | 905,077.1 | 2 |
| | 71 | 905,856.9 | 3 | 905,856.9 | 3 | 905,856.9 | 3 | 905,856.9 | 3 | 905,856.9 | 4 | 905,856.9 | 7 |
| | 81 | 1,307,681.0 | 3 | 1,307,681.0 | 3 | 1,307,681.0 | 3 | 1,307,681.0 | 3 | 1,307,681.0 | 3 | 1,307,681.0 | 7 |
| | 91 | 1,308,013.9 | 3 | 1,308,013.9 | 3 | 1,308,013.9 | 4 | 1,308,013.9 | 3 | 1,308,013.9 | 4 | 1,308,013.9 | 11 |
| | 101 | 1,410,548.9 | 1 | 1,410,548.9 | 1 | 1,410,548.9 | 1 | 1,410,548.9 | 1 | 1,410,548.9 | 1 | 1,410,548.9 | 2 |
| | 111 | 1,712,063.8 | 3 | 1,712,063.8 | 3 | 1,712,063.8 | 4 | 1,712,063.8 | 3 | 1,712,063.8 | 4 | 1,712,063.4 | 8 |
| | 121 | 1,511,873.5 | 70 | 1,511,873.5 | 64 | 1,511,808.0 | 60 | 1,511,873.5 | 70 | 1,511,873.5 | 106 | 1,511,808.0 | 144 |
| | 131 | 1,711,964.5 | 112 | 1,711,964.5 | 144 | 1,711,964.5 | 196 | 1,711,964.5 | 137 | 1,711,964.5 | 284 | 1,711,964.5 | 736 |
| | 141 | 1,813,418.9 | 11 | 1,813,418.9 | 11 | 1,813,418.9 | 12 | 1,813,418.9 | 12 | 1,813,418.9 | 13 | 1,813,418.9 | 65 |
| | 151 | 1,915,246.0 | 72 | 1,915,246.0 | 65 | 1,915,246.0 | 76 | 1,915,246.0 | 85 | 1,915,246.0 | 91 | 1,915,246.0 | 183 |
| a280-c12-w15-1000-1200 | 51 | 804,435.1 | 0 | 804,435.1 | 0 | 804,435.1 | 0 | 804,435.1 | 0 | 804,435.1 | 0 | 804,435.1 | 0 |
| | 61 | 804,876.2 | 1 | 804,876.2 | 1 | 804,876.2 | 1 | 804,876.2 | 1 | 804,876.2 | 1 | 804,876.2 | 1 |
| | 71 | 906,371.8 | 0 | 906,371.8 | 0 | 906,371.8 | 0 | 906,371.8 | 0 | 906,371.8 | 1 | 906,371.8 | 1 |
| | 81 | 1,108,333.1 | 1 | 1,108,333.1 | 1 | 1,108,178.7 | 1 | 1,108,333.1 | 1 | 1,108,333.1 | 1 | 1,108,178.7 | 2 |
| | 91 | 1,208,810.6 | 1 | 1,208,810.6 | 2 | 1,208,810.6 | 2 | 1,208,810.6 | 1 | 1,208,810.6 | 2 | 1,208,810.6 | 3 |
| | 101 | 1,209,664.4 | 10 | 1,209,664.4 | 11 | 1,209,664.4 | 13 | 1,209,664.4 | 13 | 1,209,664.4 | 18 | 1,209,664.4 | 34 |
| | 111 | 1,210,771.5 | 19 | 1,210,771.5 | 29 | 1,210,771.5 | 50 | 1,210,771.5 | 37 | 1,210,771.5 | 33 | 1,210,771.5 | 100 |
| | 121 | 1,109,898.1 | 474 | 1,109,898.1 | 564 | 1,109,898.1 | 705 | 1,109,898.1 | 581 | 1,109,898.1 | 875 | 1,109,898.1 | 1708 |
| | 131 | 1,412,034.1 | 886 | 1,412,011.4 | 785 | 1,412,011.4 | 1436 | 1,412,034.1 | 942 | 1,412,011.4 | 1575 | – | – |
| | 141 | 1,713,045.5 | 11 | 1,713,045.5 | 10 | 1,712,894.3 | 27 | 1,712,981.9 | 8 | 1,712,981.9 | 11 | 1,712,894.3 | 287 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w15-1500-2000 | 51 | 503,826.1 | 1 | 503,826.1 | 2 | 503,826.1 | 2 | 503,826.1 | 2 | 503,826.1 | 3 | 503,826.1 | 6 |
| | 61 | 604,803.4 | 4 | 604,803.4 | 4 | 604,803.4 | 5 | 604,803.4 | 5 | 604,803.4 | 6 | 604,803.4 | 16 |
| | 71 | 705,154.4 | 159 | 705,154.4 | 183 | 705,154.4 | 328 | 705,154.4 | 164 | 705,154.4 | 265 | 705,154.4 | 1031 |
| | 81 | 806,249.2 | 108 | 806,249.2 | 125 | 707,064.6 | 12 | 806,249.2 | 158 | 806,249.2 | 209 | 707,064.6 | 39 |
| | 91 | 907,486.4 | 77 | 907,486.4 | 106 | 907,471.3 | 196 | 907,486.4 | 53 | 907,486.4 | 148 | 907,471.3 | 457 |
| | 101 | 907,917.9 | 1187 | 907,917.9 | 976 | 907,909.0 | 2023 | 907,857.7 | 328 | 907,857.7 | 445 | 907,857.7 | 1727 |
| | 111 | 1,110,538.3 | 3380 | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-500-1000 | 51 | 604,181.6 | 0 | 604,181.6 | 0 | 604,181.6 | 1 | 604,181.6 | 0 | 604,181.6 | 1 | 604,181.6 | 1 |
| | 61 | 804,479.3 | 4 | 804,479.3 | 4 | 804,479.3 | 5 | 804,479.3 | 4 | 804,479.3 | 6 | 804,447.7 | 20 |
| | 71 | 806,323.4 | 4 | 806,323.4 | 5 | 806,323.4 | 6 | 806,323.4 | 5 | 806,323.4 | 6 | 806,323.4 | 15 |
| | 81 | 1,007,926.1 | 15 | 1,007,926.1 | 14 | 1,007,926.1 | 15 | 1,007,926.1 | 18 | 1,007,926.1 | 17 | 1,007,926.1 | 122 |
| | 91 | 1,207,909.5 | 8 | 1,207,909.5 | 10 | 1,207,909.5 | 14 | 1,207,909.5 | 13 | 1,207,909.5 | 16 | 1,207,909.5 | 42 |
| | 101 | 1,209,446.9 | 72 | 1,209,446.9 | 41 | 1,209,446.9 | 52 | 1,209,446.9 | 40 | 1,209,446.9 | 50 | 1,209,446.9 | 130 |
| | 111 | 1,309,944.0 | 2061 | 1,309,944.0 | 2201 | 1,309,944.0 | 2729 | 1,309,944.0 | 2685 | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | 1,510,711.0 | 458 | 1,510,711.0 | 547 | 1,510,711.0 | 1471 | 1,510,711.0 | 721 | 1,510,711.0 | 738 | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-1000-1200 | 51 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 |
| | 61 | 704,378.3 | 1 | 704,378.3 | 1 | 704,378.3 | 1 | 704,378.3 | 1 | 704,378.3 | 1 | 704,378.3 | 1 |
| | 71 | 905,516.5 | 1 | 905,516.5 | 2 | 905,516.5 | 2 | 905,516.5 | 2 | 905,516.5 | 2 | 905,516.5 | 4 |
| | 81 | 1,006,924.9 | 1 | 1,006,924.9 | 1 | 1,006,924.9 | 2 | 1,006,924.9 | 1 | 1,006,924.9 | 1 | 1,006,924.9 | 2 |
| | 91 | 1,108,074.4 | 8 | 1,108,074.4 | 9 | 1,108,074.4 | 7 | 1,108,074.4 | 5 | 1,108,074.4 | 7 | 1,108,074.4 | 18 |
| | 101 | 1,209,275.7 | 20 | 1,209,275.7 | 21 | 1,209,267.6 | 37 | 1,209,275.7 | 37 | 1,209,275.7 | 34 | 1,209,267.6 | 78 |
| | 111 | 1,310,512.7 | 48 | 1,310,512.7 | 52 | 1,310,512.7 | 24 | 1,310,512.7 | 60 | 1,310,512.7 | 71 | 1,310,512.7 | 304 |
| | 121 | 1,411,161.0 | 369 | 1,411,161.0 | 293 | 1,411,161.0 | 514 | 1,411,161.0 | 525 | 1,411,161.0 | 737 | 1,411,161.0 | 2504 |
| | 131 | 1,209,975.1 | 1260 | 1,209,975.1 | 1495 | 1,209,960.7 | 2408 | 1,209,969.1 | 2482 | 1,209,969.1 | 3194 | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |

*Continued on next page*

Table 9 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w30-1500-2000 | 51 | 503,634.0 | 16 | 503,634.0 | 20 | 503,634.0 | 27 | 503,634.0 | 21 | 503,634.0 | 37 | 503,634.0 | 154 |
| | 61 | 504,531.0 | 9 | 504,531.0 | 12 | 504,531.0 | 12 | 504,531.0 | 13 | 504,531.0 | 28 | 504,531.0 | 203 |
| | 71 | 705,050.1 | 15 | 705,050.1 | 16 | 705,050.1 | 22 | 705,050.1 | 29 | 705,050.1 | 32 | 705,050.1 | 126 |
| | 81 | 706,283.2 | 172 | 706,283.2 | 419 | 706,246.0 | 226 | 706,246.0 | 152 | 706,246.0 | 253 | 706,246.0 | 1062 |
| | 91 | 707,023.6 | 936 | 707,023.6 | 1035 | 706,756.8 | 67 | 707,023.6 | 1752 | 707,023.6 | 1688 | 706,756.8 | 288 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | 809,438.7 | 332 | 809,438.7 | 370 | 809,427.7 | 1508 | 809,438.7 | 474 | 809,438.7 | 426 | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-500-1000 | 51 | 604,210.9 | 1 | 604,210.9 | 1 | 604,210.9 | 1 | 604,210.9 | 1 | 604,210.9 | 1 | 604,210.9 | 3 |
| | 61 | 704,206.7 | 53 | 704,206.7 | 58 | 704,206.7 | 139 | 704,206.7 | 77 | 704,206.7 | 111 | 704,206.7 | 1009 |
| | 71 | 805,493.0 | 489 | 805,493.0 | 412 | 805,493.0 | 1254 | 805,493.0 | 501 | 805,493.0 | 975 | – | – |
| | 81 | 906,513.3 | 17 | 906,513.3 | 20 | 906,513.3 | 23 | 906,513.3 | 17 | 906,513.3 | 29 | 906,513.3 | 92 |
| | 91 | 1,007,065.3 | 629 | 1,007,065.3 | 849 | 1,007,065.3 | 3040 | 1,007,065.3 | 922 | 1,007,065.3 | 2973 | – | – |
| | 101 | 1,208,867.9 | 113 | 1,208,867.9 | 111 | 1,208,867.9 | 169 | 1,208,867.9 | 147 | 1,208,867.9 | 145 | 1,208,867.9 | 1313 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1000-1200 | 51 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 2 | 703,858.9 | 1 | 703,858.9 | 2 | 703,858.9 | 4 |
| | 61 | 504,351.1 | 3 | 504,351.1 | 4 | 504,349.3 | 5 | 504,351.1 | 4 | 504,351.1 | 5 | 504,349.3 | 9 |
| | 71 | 705,049.4 | 4 | 705,049.4 | 5 | 705,049.4 | 5 | 705,049.4 | 4 | 705,049.4 | 6 | 705,049.4 | 14 |
| | 81 | 806,481.7 | 262 | 806,481.7 | 307 | 806,481.7 | 1139 | 806,481.7 | 257 | 806,481.7 | 585 | – | – |
| | 91 | 907,783.6 | 73 | 907,783.6 | 80 | 907,783.6 | 151 | 907,783.6 | 112 | 907,783.6 | 118 | 907,783.6 | 375 |
| | 101 | 1,108,676.8 | 303 | 1,108,676.8 | 415 | 1,108,676.8 | 1393 | 1,108,676.8 | 404 | 1,108,676.8 | 440 | 1,108,617.6 | 1014 |
| | 111 | 1,109,579.3 | 3228 | 1,109,579.3 | 3561 | 1,109,516.6 | 1393 | 1,109,533.2 | 1495 | 1,109,533.2 | 1994 | – | – |
| | 121 | 1,110,092.0 | 1524 | 1,110,092.0 | 1527 | – | – | 1,110,092.0 | 2273 | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1500-2000 | 51 | 503,814.0 | 68 | 503,814.0 | 77 | 503,766.0 | 33 | 503,814.0 | 55 | 503,814.0 | 68 | 503,766.0 | 112 |
| | 61 | 604,196.8 | 16 | 604,196.8 | 19 | 604,196.8 | 46 | 604,196.8 | 24 | 604,196.8 | 33 | 604,196.8 | 246 |
| | 71 | 604,887.4 | 638 | 604,887.4 | 471 | 604,883.6 | 996 | 604,887.4 | 2398 | 604,887.4 | 3031 | – | – |
| | 81 | 606,831.4 | 118 | 606,831.4 | 140 | 606,831.4 | 226 | 606,831.4 | 179 | 606,831.4 | 263 | 606,831.4 | 925 |
| | 91 | 806,933.5 | 179 | 806,933.5 | 199 | 806,933.5 | 412 | 806,933.5 | 284 | 806,933.5 | 298 | 806,900.2 | 847 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| brd14051-c12-w45-3000-4000 | 51 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 |
| | 61 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| | 71 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 |
| | 81 | 1,336,264.6 | 6 | 1,336,264.6 | 6 | 1,336,264.6 | 7 | 1,336,264.6 | 6 | 1,336,264.6 | 7 | 1,336,264.6 | 11 |
| | 91 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 |
| | 101 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 |
| | 111 | 2,052,559.3 | 2 | 2,052,559.3 | 2 | 2,052,559.3 | 2 | 2,052,559.3 | 2 | 2,052,559.3 | 2 | 2,052,559.3 | 2 |
| | 121 | 2,058,447.8 | 4 | 2,058,447.8 | 4 | 2,058,447.8 | 5 | 2,058,447.8 | 5 | 2,058,447.8 | 5 | 2,058,447.8 | 7 |
| | 131 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 |
| | 141 | 2,570,595.0 | 10 | 2,570,595.0 | 11 | 2,570,595.0 | 14 | 2,570,595.0 | 11 | 2,570,595.0 | 14 | 2,570,595.0 | 42 |
| | 151 | 2,669,057.9 | 185 | 2,669,057.9 | 195 | 2,669,057.9 | 403 | 2,669,057.9 | 259 | 2,669,057.9 | 202 | 2,669,057.9 | 287 |

*Continued on next page*

Table 9 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| brd14051-c12-w60-3000-4000 | 51 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 |
| | 61 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 |
| | 71 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 |
| | 81 | 1,639,524.2 | 0 | 1,639,524.2 | 0 | 1,639,524.2 | 0 | 1,639,524.2 | 1 | 1,639,524.2 | 1 | 1,639,524.2 | 1 |
| | 91 | 1,641,517.5 | 1 | 1,641,517.5 | 1 | 1,641,517.5 | 1 | 1,641,517.5 | 1 | 1,641,517.5 | 1 | 1,641,517.5 | 1 |
| | 101 | 1,948,345.1 | 3 | 1,948,345.1 | 3 | 1,948,345.1 | 3 | 1,948,345.1 | 3 | 1,948,345.1 | 3 | 1,948,345.1 | 3 |
| | 111 | 1,645,846.5 | 4 | 1,645,846.5 | 5 | 1,645,846.5 | 6 | 1,645,846.5 | 4 | 1,645,846.5 | 6 | 1,645,846.5 | 10 |
| | 121 | 2,467,816.2 | 4 | 2,467,816.2 | 4 | 2,467,816.2 | 5 | 2,467,816.2 | 4 | 2,467,816.2 | 5 | 2,467,816.2 | 8 |
| | 131 | 2,471,043.4 | 1 | 2,471,043.4 | 1 | 2,471,043.4 | 1 | 2,471,043.4 | 1 | 2,471,043.4 | 1 | 2,471,043.4 | 1 |
| | 141 | 2,261,939.7 | 3 | 2,261,939.7 | 3 | 2,261,939.7 | 3 | 2,261,939.7 | 3 | 2,261,939.7 | 4 | 2,261,939.7 | 5 |
| | 151 | 2,470,006.4 | 7 | 2,470,006.4 | 9 | 2,470,006.4 | 10 | 2,470,006.4 | 8 | 2,470,006.4 | 11 | 2,470,006.4 | 38 |
| brd14051-c12-w75-3000-4000 | 51 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 |
| | 61 | 1,336,521.0 | 16 | 1,336,521.0 | 16 | 1,336,521.0 | 17 | 1,336,521.0 | 16 | 1,336,521.0 | 17 | 1,336,521.0 | 18 |
| | 71 | 1,435,166.0 | 23 | 1,435,166.0 | 23 | 1,435,166.0 | 25 | 1,435,166.0 | 23 | 1,435,166.0 | 24 | 1,435,166.0 | 33 |
| | 81 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 |
| | 91 | 1,540,611.3 | 26 | 1,540,611.3 | 26 | 1,540,611.3 | 32 | 1,540,611.3 | 27 | 1,540,611.3 | 28 | 1,540,611.3 | 32 |
| | 101 | 1,852,383.2 | 1 | 1,852,383.2 | 1 | 1,852,383.2 | 1 | 1,852,383.2 | 1 | 1,852,383.2 | 1 | 1,852,383.2 | 2 |
| | 111 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 3 |
| | 121 | 2,057,963.7 | 3 | 2,057,963.7 | 3 | 2,057,963.7 | 3 | 2,057,963.7 | 3 | 2,057,963.7 | 3 | 2,057,963.7 | 3 |
| | 131 | 2,269,831.9 | 5 | 2,269,831.9 | 5 | 2,269,831.9 | 5 | 2,269,831.9 | 5 | 2,269,831.9 | 6 | 2,269,831.9 | 6 |
| | 141 | 1,952,915.9 | 69 | 1,952,915.9 | 66 | 1,952,915.9 | 75 | 1,952,915.9 | 101 | 1,952,915.9 | 91 | 1,952,915.9 | 145 |
| | 151 | 2,055,763.3 | 12 | 2,055,763.3 | 53 | 2,055,763.3 | 48 | 2,055,763.3 | 59 | 2,055,763.3 | 69 | 2,055,763.3 | 207 |
| brd14051-c12-w90-3000-4000 | 51 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 |
| | 61 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 |
| | 71 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 |
| | 81 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 |
| | 91 | 1,842,307.4 | 1 | 1,842,307.4 | 2 | 1,842,307.4 | 2 | 1,842,307.4 | 1 | 1,842,307.4 | 2 | 1,842,307.4 | 2 |
| | 101 | 1,753,389.9 | 2 | 1,753,389.9 | 2 | 1,753,389.9 | 2 | 1,753,389.9 | 2 | 1,753,389.9 | 2 | 1,753,389.9 | 4 |
| | 111 | 1,543,257.5 | 4 | 1,543,257.5 | 5 | 1,543,257.5 | 6 | 1,543,257.5 | 5 | 1,543,257.5 | 5 | 1,543,257.5 | 13 |
| | 121 | 2,056,640.9 | 2 | 2,056,640.9 | 2 | 2,056,640.9 | 2 | 2,056,640.9 | 2 | 2,056,640.9 | 3 | 2,056,640.9 | 6 |
| | 131 | 2,067,734.7 | 3 | 2,067,734.7 | 3 | 2,067,734.7 | 2 | 2,067,734.7 | 3 | 2,067,734.7 | 3 | 2,067,734.7 | 3 |
| | 141 | 2,256,497.9 | 53 | 2,256,497.9 | 50 | 2,256,497.9 | 55 | 2,256,497.9 | 70 | 2,256,497.9 | 146 | 2,256,497.9 | 244 |
| | 151 | – | – | – | – | 2,057,887.2 | 1114 | – | – | – | – | – | – |
| brd14051-c12-w120-3000-4000 | 51 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 |
| | 61 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 1 |
| | 71 | 1,233,921.9 | 6 | 1,233,921.9 | 6 | 1,233,921.9 | 7 | 1,233,921.9 | 6 | 1,233,921.9 | 6 | 1,233,921.9 | 8 |
| | 81 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 2 |
| | 91 | 1,444,961.5 | 1 | 1,444,961.5 | 1 | 1,444,961.5 | 1 | 1,444,961.5 | 1 | 1,444,957.8 | 1 | 1,444,957.8 | 1 |
| | 101 | 1,849,555.6 | 2 | 1,849,555.6 | 2 | 1,849,555.6 | 2 | 1,849,555.6 | 2 | 1,849,555.6 | 2 | 1,849,555.6 | 3 |
| | 111 | 1,540,974.8 | 9 | 1,540,974.8 | 9 | 1,540,974.8 | 12 | 1,540,974.8 | 9 | 1,540,974.8 | 11 | 1,540,974.8 | 25 |
| | 121 | 1,850,592.8 | 1115 | 1,850,592.8 | 1103 | 1,850,592.8 | 461 | 1,850,592.8 | 1039 | 1,850,592.8 | 411 | 1,850,592.8 | 347 |
| | 131 | 1,859,362.3 | 2 | 1,859,362.3 | 2 | 1,858,505.0 | 5 | 1,859,362.3 | 2 | 1,859,362.3 | 2 | 1,858,505.0 | 8 |
| | 141 | 1,955,887.9 | 364 | 1,955,887.9 | 246 | 1,955,887.9 | 359 | 1,955,887.9 | 424 | 1,955,887.9 | 396 | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| d18512-c12-w45-3000-4000 | 51 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 |
| | 61 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 |
| | 71 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 |
| | 81 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 0 |
| | 91 | 1,643,695.1 | 1 | 1,643,695.1 | 1 | 1,643,695.1 | 1 | 1,643,695.1 | 1 | 1,643,695.1 | 1 | 1,643,695.1 | 1 |
| | 101 | 1,748,395.1 | 1 | 1,748,395.1 | 1 | 1,747,715.0 | 2 | 1,748,395.1 | 1 | 1,748,395.1 | 1 | 1,747,715.0 | 3 |
| | 111 | 2,057,771.4 | 2 | 2,057,771.4 | 2 | 2,057,771.4 | 2 | 2,057,771.4 | 2 | 2,057,771.4 | 2 | 2,057,771.4 | 2 |
| | 121 | 2,467,620.2 | 2 | 2,467,620.2 | 2 | 2,467,620.2 | 2 | 2,467,620.2 | 2 | 2,467,620.2 | 2 | 2,467,620.2 | 2 |
| | 131 | 2,265,058.6 | 11 | 2,265,058.6 | 11 | 2,265,058.6 | 14 | 2,265,058.6 | 12 | 2,265,058.6 | 13 | 2,265,058.6 | 38 |
| | 141 | 2,470,414.0 | 3 | 2,470,414.0 | 3 | 2,470,414.0 | 3 | 2,470,414.0 | 3 | 2,470,414.0 | 3 | 2,470,414.0 | 7 |
| | 151 | 2,367,531.3 | 6 | 2,367,531.3 | 6 | 2,367,001.0 | 3 | 2,367,531.3 | 7 | 2,367,531.3 | 7 | 2,367,001.0 | 4 |

*Continued on next page*

Table 9 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| d18512-c12-w60-3000-4000 | 51 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 |
| | 61 | 1,129,787.1 | 2 | 1,129,787.1 | 2 | 1,129,787.1 | 2 | 1,129,787.1 | 2 | 1,129,787.1 | 2 | 1,129,787.1 | 2 |
| | 71 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 1 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 1 |
| | 81 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 |
| | 91 | 1,746,583.0 | 1 | 1,746,583.0 | 1 | 1,746,488.7 | 1 | 1,746,583.0 | 1 | 1,746,583.0 | 1 | 1,746,488.7 | 1 |
| | 101 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 3 |
| | 111 | 2,161,004.7 | 7 | 2,161,004.7 | 7 | 2,161,004.7 | 8 | 2,161,004.7 | 11 | 2,161,004.7 | 10 | 2,161,004.7 | 16 |
| | 121 | 2,369,530.4 | 2 | 2,369,530.4 | 2 | 2,369,530.4 | 2 | 2,369,530.4 | 2 | 2,369,530.4 | 3 | 2,369,530.4 | 5 |
| | 131 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 8 |
| | 141 | 2,061,688.9 | 5 | 2,061,688.9 | 6 | 2,061,688.9 | 10 | 2,061,688.9 | 6 | 2,061,688.9 | 14 | 2,061,688.9 | 35 |
| | 151 | 2,472,073.3 | 4 | 2,472,073.3 | 4 | 2,472,073.3 | 6 | 2,472,073.3 | 5 | 2,472,073.3 | 6 | 2,472,073.3 | 9 |
| d18512-c12-w75-3000-4000 | 51 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 |
| | 61 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 0 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 |
| | 71 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 |
| | 81 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 |
| | 91 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 2 |
| | 101 | 1,643,545.7 | 401 | 1,643,545.7 | 407 | 1,643,545.7 | 448 | 1,643,545.7 | 368 | 1,643,545.7 | 481 | 1,643,545.7 | 930 |
| | 111 | 1,854,713.5 | 12 | 1,854,713.5 | 12 | 1,854,713.5 | 13 | 1,854,713.5 | 13 | 1,854,713.5 | 14 | 1,854,713.5 | 27 |
| | 121 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 2 |
| | 131 | 2,157,306.7 | 2 | 2,157,306.7 | 2 | 2,157,306.7 | 2 | 2,157,306.7 | 2 | 2,157,306.7 | 2 | 2,157,306.7 | 3 |
| | 141 | 2,163,592.3 | 3 | 2,163,592.3 | 3 | 2,163,592.3 | 3 | 2,163,592.3 | 3 | 2,163,592.3 | 3 | 2,163,592.3 | 7 |
| | 151 | 2,163,181.4 | 58 | 2,163,181.4 | 60 | 2,163,181.4 | 105 | 2,163,181.4 | 111 | 2,163,181.4 | 106 | 2,163,181.4 | 259 |
| d18512-c12-w90-3000-4000 | 51 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 |
| | 61 | 1,230,401.8 | 209 | 1,230,401.8 | 213 | 1,230,401.8 | 225 | 1,230,401.8 | 208 | 1,230,401.8 | 212 | 1,230,401.8 | 257 |
| | 71 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 |
| | 81 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 |
| | 91 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 |
| | 101 | 1,643,547.9 | 1 | 1,643,547.9 | 1 | 1,643,547.9 | 1 | 1,643,547.9 | 2 | 1,643,547.9 | 2 | 1,643,547.9 | 4 |
| | 111 | 2,051,493.5 | 2 | 2,051,493.5 | 2 | 2,051,493.5 | 3 | 2,051,493.5 | 2 | 2,051,493.5 | 2 | 2,051,493.5 | 4 |
| | 121 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 4 | 2,059,222.6 | 3 | 2,059,222.6 | 4 | 2,059,222.6 | 6 |
| | 131 | 2,056,122.0 | 26 | 2,056,122.0 | 31 | 2,056,122.0 | 32 | 2,056,122.0 | 25 | 2,056,122.0 | 33 | 2,056,122.0 | 86 |
| | 141 | 1,956,221.6 | 14 | 1,956,221.6 | 14 | 1,956,221.6 | 19 | 1,956,221.6 | 15 | 1,956,221.6 | 19 | 1,956,221.6 | 56 |
| | 151 | 2,468,117.5 | 61 | 2,468,001.7 | 62 | 2,468,001.7 | 81 | 2,468,117.5 | 84 | 2,468,001.7 | 109 | 2,468,001.7 | 687 |
| d18512-c12-w120-3000-4000 | 51 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 |
| | 61 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 |
| | 71 | 1,331,511.4 | 2 | 1,331,511.4 | 2 | 1,331,511.4 | 2 | 1,331,511.4 | 2 | 1,331,511.4 | 2 | 1,331,511.4 | 4 |
| | 81 | 1,333,708.2 | 2 | 1,333,708.2 | 2 | 1,333,708.2 | 2 | 1,333,708.2 | 2 | 1,333,708.2 | 2 | 1,333,708.2 | 3 |
| | 91 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 |
| | 101 | 1,545,282.9 | 2 | 1,545,282.9 | 2 | 1,545,282.9 | 2 | 1,545,282.9 | 1 | 1,545,282.9 | 1 | 1,545,282.9 | 3 |
| | 111 | 1,750,111.3 | 2 | 1,750,111.3 | 2 | 1,750,111.3 | 3 | 1,750,111.3 | 3 | 1,750,111.3 | 3 | 1,750,111.3 | 4 |
| | 121 | 2,064,040.3 | 1666 | 2,064,040.3 | 1726 | 2,064,040.3 | 1760 | 2,064,040.3 | 1746 | 2,064,040.3 | 1851 | 2,064,040.3 | 2619 |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | 1,956,119.1 | 22 | 1,956,119.1 | 28 | 1,956,119.1 | 31 | 1,956,119.1 | 27 | 1,956,119.1 | 31 | 1,956,119.1 | 77 |
| | 151 | 2,160,514.3 | 106 | 2,160,514.3 | 114 | 2,059,907.6 | 10 | 2,160,514.3 | 236 | 2,160,514.3 | 135 | 2,059,907.6 | 42 |
| fn14461-c12-w45-3000-4000 | 51 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 |
| | 61 | 1,219,256.5 | 1 | 1,219,256.5 | 1 | 1,219,256.5 | 1 | 1,219,256.5 | 1 | 1,219,256.5 | 1 | 1,219,256.5 | 1 |
| | 71 | 917,220.9 | 1 | 917,220.9 | 1 | 917,220.9 | 2 | 917,220.9 | 1 | 917,220.9 | 2 | 917,220.9 | 2 |
| | 81 | 921,776.0 | 2 | 921,776.0 | 2 | 921,577.8 | 1 | 921,776.0 | 2 | 921,776.0 | 2 | 921,577.8 | 2 |
| | 91 | 1,121,819.3 | 83 | 1,121,819.3 | 127 | 1,121,756.7 | 253 | 1,121,819.3 | 75 | 1,121,819.3 | 372 | 1,121,697.4 | 911 |
| | 101 | 1,327,908.6 | 16 | 1,327,908.6 | 17 | 1,327,908.6 | 19 | 1,327,908.6 | 14 | 1,327,908.6 | 12 | 1,327,908.6 | 30 |
| | 111 | 1,429,315.4 | 49 | 1,429,315.4 | 50 | 1,330,049.8 | 4 | 1,429,315.4 | 58 | 1,429,315.4 | 89 | 1,330,049.8 | 5 |
| | 121 | 1,433,783.2 | 6 | 1,433,783.2 | 6 | 1,433,783.2 | 6 | 1,433,783.2 | 6 | 1,433,783.2 | 7 | 1,433,783.2 | 12 |
| | 131 | 1,639,494.4 | 70 | 1,639,494.4 | 82 | 1,639,494.4 | 80 | 1,639,494.4 | 105 | 1,639,494.4 | 102 | 1,639,494.4 | 175 |
| | 141 | 1,740,995.2 | 77 | 1,740,995.2 | 83 | 1,740,995.2 | 72 | 1,740,995.2 | 61 | 1,740,995.2 | 82 | 1,740,995.2 | 189 |
| | 151 | 1,739,028.9 | 501 | 1,739,028.9 | 527 | 1,739,028.9 | 897 | 1,739,028.9 | 819 | 1,739,028.9 | 656 | 1,739,028.9 | 1572 |

*Continued on next page*

Table 9 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| fnl4461-c12-w60-3000-4000 | 51 | 715,685.0 | 1 | 715,685.0 | 1 | 715,685.0 | 1 | 715,685.0 | 1 | 715,685.0 | 1 | 715,685.0 | 1 |
| | 61 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 |
| | 71 | 917,406.0 | 2 | 917,406.0 | 2 | 917,406.0 | 3 | 917,406.0 | 2 | 917,406.0 | 3 | 917,406.0 | 5 |
| | 81 | 923,020.2 | 3 | 923,020.2 | 3 | 923,020.2 | 4 | 923,020.2 | 3 | 923,020.2 | 3 | 923,020.2 | 5 |
| | 91 | 1,021,784.4 | 3 | 1,021,784.4 | 3 | 1,021,784.4 | 3 | 1,021,784.4 | 3 | 1,021,784.4 | 4 | 1,021,784.4 | 4 |
| | 101 | 1,126,860.9 | 31 | 1,126,860.9 | 32 | 1,126,860.9 | 48 | 1,126,860.9 | 34 | 1,126,860.9 | 45 | 1,126,860.9 | 93 |
| | 111 | 1,329,806.8 | 20 | 1,329,806.8 | 21 | 1,329,806.8 | 26 | 1,329,806.8 | 22 | 1,329,806.8 | 23 | 1,329,806.8 | 57 |
| | 121 | 1,330,242.0 | 24 | 1,330,242.0 | 25 | 1,330,242.0 | 32 | 1,330,242.0 | 33 | 1,330,242.0 | 42 | 1,330,242.0 | 87 |
| | 131 | 1,538,425.7 | 269 | 1,538,425.7 | 276 | 1,538,425.7 | 101 | 1,538,425.7 | 137 | 1,538,425.7 | 172 | 1,538,425.7 | 481 |
| | 141 | 1,536,648.4 | 100 | 1,536,648.4 | 107 | 1,536,648.4 | 132 | 1,536,648.4 | 106 | 1,536,648.4 | 138 | 1,536,648.4 | 298 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w75-3000-4000 | 51 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 |
| | 61 | 816,012.8 | 1 | 816,012.8 | 1 | 816,012.8 | 1 | 816,012.8 | 1 | 816,012.8 | 1 | 816,012.8 | 1 |
| | 71 | 818,324.2 | 1 | 818,324.2 | 1 | 818,324.2 | 1 | 818,324.2 | 1 | 818,324.2 | 1 | 818,324.2 | 2 |
| | 81 | 920,269.4 | 3 | 920,269.4 | 3 | 920,269.4 | 3 | 920,269.4 | 3 | 920,269.4 | 3 | 920,269.4 | 6 |
| | 91 | 1,023,143.3 | 4 | 1,023,143.3 | 4 | 1,023,143.3 | 4 | 1,023,143.3 | 4 | 1,023,143.3 | 5 | 1,023,143.3 | 8 |
| | 101 | 1,226,769.5 | 108 | 1,226,769.5 | 119 | 1,226,769.5 | 157 | 1,226,769.5 | 115 | 1,226,769.5 | 156 | 1,226,769.5 | 502 |
| | 111 | 1,130,216.6 | 50 | 1,130,216.6 | 52 | 1,130,216.6 | 63 | 1,130,216.6 | 46 | 1,130,216.6 | 56 | 1,130,216.6 | 94 |
| | 121 | 1,332,884.0 | 172 | 1,332,884.0 | 186 | 1,332,884.0 | 216 | 1,332,884.0 | 201 | 1,332,884.0 | 222 | 1,332,884.0 | 456 |
| | 131 | 1,435,047.3 | 505 | 1,435,047.3 | 569 | 1,435,047.3 | 619 | 1,435,047.3 | 572 | 1,435,047.3 | 624 | 1,435,047.3 | 1658 |
| | 141 | 1,539,207.3 | 66 | 1,539,207.3 | 71 | 1,539,207.3 | 106 | 1,539,207.3 | 82 | 1,539,207.3 | 101 | 1,539,207.3 | 243 |
| | 151 | 1,539,587.6 | 3309 | 1,539,587.6 | 3377 | – | – | – | – | – | – | – | – |
| fnl4461-c12-w90-3000-4000 | 51 | 813,822.6 | 1 | 813,822.6 | 1 | 714,288.8 | 0 | 813,822.6 | 1 | 714,288.8 | 0 | 714,288.8 | 1 |
| | 61 | 817,581.5 | 932 | 817,581.5 | 931 | 817,013.2 | 86 | 817,581.5 | 1288 | 817,581.5 | 1508 | 817,013.2 | 110 |
| | 71 | 815,054.6 | 4 | 815,054.6 | 4 | 815,054.6 | 5 | 815,054.6 | 5 | 815,054.6 | 5 | 815,054.6 | 11 |
| | 81 | 921,682.1 | 4 | 921,682.1 | 4 | 921,682.1 | 5 | 921,682.1 | 4 | 921,682.1 | 4 | 921,682.1 | 9 |
| | 91 | 1,023,278.7 | 46 | 1,023,278.7 | 49 | 1,023,278.7 | 44 | 1,023,278.7 | 54 | 1,023,278.7 | 31 | 1,023,278.7 | 114 |
| | 101 | 1,225,258.8 | 63 | 1,225,258.8 | 65 | 1,225,236.8 | 123 | 1,225,258.8 | 119 | 1,225,258.8 | 113 | 1,225,236.8 | 2257 |
| | 111 | 1,227,738.5 | 193 | 1,227,738.5 | 257 | 1,227,738.5 | 704 | 1,227,738.5 | 1131 | 1,227,738.5 | 1446 | – | – |
| | 121 | 1,334,355.3 | 262 | 1,334,355.3 | 427 | 1,334,355.3 | 1035 | 1,334,355.3 | 306 | 1,334,355.3 | 1072 | 1,334,355.3 | 3233 |
| | 131 | 1,231,918.9 | 1835 | 1,231,918.9 | 1898 | 1,231,918.9 | 3100 | 1,231,918.9 | 2565 | 1,231,918.9 | 3414 | – | – |
| | 141 | 1,340,612.3 | 2981 | 1,340,612.3 | 2050 | 1,340,612.3 | 2559 | 1,340,612.3 | 1545 | 1,340,612.3 | 2755 | – | – |
| | 151 | 1,538,426.5 | 1361 | 1,538,426.5 | 1377 | 1,538,426.5 | 1897 | 1,538,426.5 | 1308 | 1,538,426.5 | 1246 | – | – |
| fnl4461-c12-w120-3000-4000 | 51 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 6 |
| | 61 | 714,165.2 | 13 | 714,165.2 | 17 | 714,165.2 | 25 | 714,165.2 | 19 | 714,165.2 | 28 | 714,165.2 | 105 |
| | 71 | 715,364.1 | 6 | 715,327.0 | 7 | 715,327.0 | 10 | 715,364.1 | 11 | 715,327.0 | 13 | 715,327.0 | 66 |
| | 81 | 819,609.3 | 72 | 819,609.3 | 189 | 819,609.3 | 123 | 819,609.3 | 139 | 819,609.3 | 388 | 819,609.3 | 1054 |
| | 91 | 819,942.6 | 433 | 819,942.6 | 673 | 819,942.6 | 1164 | 819,942.6 | 560 | 819,942.6 | 1344 | – | – |
| | 101 | 1,027,740.4 | 222 | 1,027,740.4 | 267 | 1,027,740.4 | 228 | 1,027,740.4 | 386 | 1,027,740.4 | 362 | 1,027,740.4 | 3577 |
| | 111 | 1,026,088.5 | 3422 | 1,026,088.5 | 3224 | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | 1,130,784.5 | 983 | 1,130,784.5 | 1309 | 1,130,784.5 | 1612 | 1,130,784.5 | 2628 | 1,130,662.7 | 2149 | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,337,205.5 | 2345 | 1,337,205.5 | 2280 | 1,337,205.5 | 2242 | – | – | – | – | – | – |
| nrw1379-c12-w45-3000-4000 | 51 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 |
| | 61 | 919,538.1 | 1 | 919,538.1 | 1 | 919,538.1 | 1 | 919,538.1 | 1 | 919,538.1 | 1 | 919,538.1 | 1 |
| | 71 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 |
| | 81 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 2 |
| | 91 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 3 |
| | 101 | 1,329,752.6 | 11 | 1,329,752.6 | 12 | 1,329,752.6 | 13 | 1,329,752.6 | 12 | 1,329,752.6 | 14 | 1,329,752.6 | 26 |
| | 111 | 1,534,358.5 | 28 | 1,534,358.5 | 30 | 1,534,358.5 | 30 | 1,534,358.5 | 27 | 1,534,358.5 | 30 | 1,534,358.5 | 52 |
| | 121 | 1,638,779.9 | 71 | 1,638,779.9 | 75 | 1,638,779.9 | 81 | 1,638,779.9 | 81 | 1,638,779.9 | 96 | 1,638,779.9 | 158 |
| | 131 | 1,840,873.0 | 15 | 1,840,873.0 | 15 | 1,840,873.0 | 20 | 1,840,873.0 | 11 | 1,840,873.0 | 12 | 1,840,873.0 | 40 |
| | 141 | 2,045,747.1 | 26 | 2,045,747.1 | 28 | 2,045,747.1 | 33 | 2,045,747.1 | 26 | 2,045,747.1 | 35 | 2,045,747.1 | 65 |
| | 151 | 2,148,913.7 | 4 | 2,148,913.7 | 4 | 2,148,913.7 | 5 | 2,148,913.7 | 5 | 2,148,913.7 | 5 | 2,148,913.7 | 6 |

*Continued on next page*

Table 9 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| nrw1379-c12-w60-3000-4000 | 51 | 714,362.0 | 0 | 714,362.0 | 0 | 714,362.0 | 1 | 714,362.0 | 0 | 714,362.0 | 0 | 714,362.0 | 1 |
| | 61 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 2 |
| | 71 | 1,122,140.0 | 2 | 1,122,140.0 | 2 | 1,122,140.0 | 2 | 1,122,140.0 | 2 | 1,122,140.0 | 2 | 1,122,140.0 | 3 |
| | 81 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 |
| | 91 | 1,228,112.7 | 4 | 1,228,112.7 | 4 | 1,228,112.7 | 5 | 1,228,112.7 | 5 | 1,228,112.7 | 5 | 1,228,112.7 | 9 |
| | 101 | 1,331,946.8 | 2 | 1,331,946.8 | 2 | 1,331,946.8 | 2 | 1,331,946.8 | 2 | 1,331,946.8 | 2 | 1,331,946.8 | 2 |
| | 111 | 1,635,059.9 | 7 | 1,635,059.9 | 8 | 1,635,059.9 | 8 | 1,635,059.9 | 7 | 1,635,059.9 | 9 | 1,635,059.9 | 18 |
| | 121 | 1,539,625.2 | 94 | 1,539,625.2 | 95 | 1,539,625.2 | 100 | 1,539,625.2 | 104 | 1,539,625.2 | 89 | 1,539,625.2 | 171 |
| | 131 | 1,636,743.3 | 10 | 1,636,743.3 | 10 | 1,636,743.3 | 10 | 1,636,743.3 | 10 | 1,636,743.3 | 11 | 1,636,743.3 | 29 |
| | 141 | 1,947,072.4 | 31 | 1,947,072.4 | 34 | 1,947,072.4 | 41 | 1,947,072.4 | 23 | 1,947,072.4 | 48 | 1,947,072.4 | 189 |
| | 151 | 1,744,674.0 | 74 | 1,744,674.0 | 73 | 1,744,674.0 | 109 | 1,744,674.0 | 55 | 1,744,674.0 | 107 | 1,744,674.0 | 413 |
| nrw1379-c12-w75-3000-4000 | 51 | 919,078.2 | 1 | 919,078.2 | 1 | 919,078.2 | 1 | 919,078.2 | 1 | 919,078.2 | 1 | 919,078.2 | 1 |
| | 61 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 |
| | 71 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 2 |
| | 81 | 1,025,898.7 | 1 | 1,025,898.7 | 1 | 1,025,898.7 | 1 | 1,025,898.7 | 1 | 1,025,898.7 | 1 | 1,025,898.7 | 1 |
| | 91 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 5 |
| | 101 | 1,226,401.5 | 8 | 1,226,401.5 | 9 | 1,226,394.7 | 14 | 1,226,401.5 | 9 | 1,226,394.7 | 22 | 1,226,394.7 | 34 |
| | 111 | 1,435,718.4 | 8 | 1,435,718.4 | 8 | 1,435,718.4 | 9 | 1,435,718.4 | 13 | 1,435,718.4 | 9 | 1,435,718.4 | 41 |
| | 121 | 1,530,684.1 | 172 | 1,530,684.1 | 180 | 1,530,684.1 | 143 | 1,530,684.1 | 173 | 1,530,684.1 | 171 | 1,530,684.1 | 513 |
| | 131 | 1,540,241.7 | 17 | 1,540,241.7 | 19 | 1,540,241.7 | 28 | 1,540,241.7 | 18 | 1,540,241.7 | 16 | 1,540,241.7 | 84 |
| | 141 | 1,740,531.1 | 167 | 1,740,531.1 | 142 | 1,740,531.1 | 352 | 1,740,531.1 | 190 | 1,740,531.1 | 236 | 1,740,531.1 | 739 |
| | 151 | 1,743,031.4 | 7 | 1,743,031.4 | 7 | 1,743,031.4 | 9 | 1,743,031.4 | 8 | 1,743,031.4 | 10 | 1,743,031.4 | 15 |
| nrw1379-c12-w90-3000-4000 | 51 | 815,844.7 | 1 | 815,844.7 | 0 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 |
| | 61 | 1,222,464.7 | 1 | 1,222,464.7 | 1 | 1,222,464.7 | 1 | 1,222,464.7 | 1 | 1,222,464.7 | 1 | 1,222,464.7 | 1 |
| | 71 | 1,021,298.6 | 2 | 1,021,298.6 | 2 | 1,021,298.6 | 3 | 1,021,298.6 | 4 | 1,021,298.6 | 4 | 1,021,298.6 | 50 |
| | 81 | 1,023,927.9 | 7 | 1,023,927.9 | 9 | 1,023,927.9 | 12 | 1,023,927.9 | 8 | 1,023,927.9 | 20 | 1,023,927.9 | 108 |
| | 91 | 1,323,415.2 | 4 | 1,323,415.2 | 4 | 1,323,415.2 | 5 | 1,323,415.2 | 5 | 1,323,415.2 | 6 | 1,323,415.2 | 21 |
| | 101 | 1,427,959.4 | 10 | 1,427,959.4 | 12 | 1,427,959.4 | 14 | 1,427,959.4 | 12 | 1,427,959.4 | 13 | 1,427,959.4 | 40 |
| | 111 | 1,230,349.7 | 4 | 1,230,349.7 | 5 | 1,230,349.7 | 6 | 1,230,349.7 | 5 | 1,230,349.7 | 5 | 1,230,349.7 | 11 |
| | 121 | 1,334,007.7 | 7 | 1,334,007.7 | 8 | 1,334,007.7 | 10 | 1,334,007.7 | 10 | 1,334,007.7 | 11 | 1,334,007.7 | 27 |
| | 131 | 1,334,802.6 | 97 | 1,334,802.6 | 111 | 1,334,802.6 | 130 | 1,334,802.6 | 101 | 1,334,802.6 | 360 | 1,334,802.6 | 3119 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,639,143.0 | 147 | 1,639,143.0 | 161 | 1,638,931.5 | 306 | 1,638,931.5 | 241 | 1,638,931.5 | 264 | 1,638,931.5 | 672 |
| nrw1379-c12-w120-3000-4000 | 51 | 716,006.6 | 1 | 716,006.6 | 1 | 716,006.6 | 2 | 716,006.6 | 2 | 716,006.6 | 3 | 716,006.6 | 15 |
| | 61 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 |
| | 71 | 1,023,001.3 | 2 | 1,023,001.3 | 2 | 1,023,001.3 | 3 | 1,023,001.3 | 2 | 1,023,001.3 | 3 | 1,023,001.3 | 8 |
| | 81 | 1,024,248.7 | 6 | 1,024,248.7 | 6 | 1,024,248.7 | 7 | 1,024,248.7 | 6 | 1,024,248.7 | 8 | 1,024,248.7 | 15 |
| | 91 | 1,024,419.7 | 8 | 1,024,419.7 | 9 | 1,024,419.7 | 13 | 1,024,419.7 | 9 | 1,024,419.7 | 12 | 1,024,419.7 | 35 |
| | 101 | 1,230,640.6 | 66 | 1,230,640.6 | 60 | 1,230,640.6 | 127 | 1,230,640.6 | 93 | 1,230,640.6 | 76 | 1,230,640.6 | 243 |
| | 111 | 1,232,874.1 | 190 | 1,232,874.1 | 119 | 1,232,874.1 | 130 | 1,232,874.1 | 96 | 1,232,874.1 | 103 | 1,232,874.1 | 214 |
| | 121 | 1,332,623.4 | 475 | 1,332,623.4 | 532 | 1,332,623.4 | 512 | 1,332,623.4 | 347 | 1,332,623.4 | 669 | 1,332,623.4 | 1783 |
| | 131 | – | – | – | – | 1,436,919.9 | 2319 | – | – | – | – | – | – |
| | 141 | 1,639,581.6 | 38 | 1,639,581.6 | 45 | 1,639,581.6 | 54 | 1,639,581.6 | 47 | 1,639,581.6 | 56 | 1,639,581.6 | 160 |
| | 151 | 1,538,515.4 | 154 | 1,538,515.4 | 98 | 1,538,515.4 | 185 | 1,538,515.4 | 321 | 1,538,515.4 | 389 | 1,538,463.0 | 600 |
| Solved | | | 282 | | 281 | | 280 | | 278 | | 276 | | 260 |
| ∅ Time | | | 168.1 | | 161.2 | | 189.1 | | 153.0 | | 177.1 | | 198.4 |

**Table 10: Detailed computational results $\delta = 1$ and with three stacks**

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w15-500-1000 | 51 | 704,358.0 | 2 | 704,358.0 | 2 | 704,358.0 | 2 | 704,358.0 | 2 | 704,358.0 | 2 | 704,358.0 | 3 |
| | 61 | 905,043.7 | 0 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 2 |
| | 71 | 905,856.9 | 6 | 905,856.9 | 6 | 905,856.9 | 5 | 905,856.9 | 6 | 905,856.9 | 6 | 905,856.9 | 15 |
| | 81 | 1,307,742.8 | 4 | 1,307,742.8 | 4 | 1,307,742.8 | 5 | 1,307,742.8 | 4 | 1,307,742.8 | 4 | 1,307,742.8 | 11 |
| | 91 | 1,308,213.1 | 64 | 1,308,213.1 | 68 | 1,308,213.1 | 61 | 1,308,213.1 | 58 | 1,308,213.1 | 68 | 1,308,213.1 | 367 |
| | 101 | 1,410,506.3 | 1 | 1,410,506.3 | 1 | 1,410,506.3 | 1 | 1,410,506.3 | 1 | 1,410,506.3 | 1 | 1,410,506.3 | 2 |
| | 111 | 1,712,047.7 | 4 | 1,712,047.7 | 4 | 1,712,047.7 | 4 | 1,712,047.7 | 6 | 1,712,047.7 | 6 | 1,712,047.7 | 15 |
| | 121 | 1,511,516.7 | 80 | 1,511,516.7 | 82 | 1,511,516.7 | 190 | 1,511,516.7 | 129 | 1,511,516.7 | 223 | 1,511,516.7 | 345 |
| | 131 | 1,612,149.7 | 13 | 1,612,149.7 | 13 | 1,612,149.7 | 16 | 1,612,149.7 | 14 | 1,612,149.7 | 18 | 1,612,149.7 | 105 |
| | 141 | 1,813,377.5 | 10 | 1,813,377.5 | 10 | 1,813,377.5 | 12 | 1,813,377.5 | 10 | 1,813,377.5 | 12 | 1,813,377.5 | 167 |
| | 151 | 1,914,668.6 | 27 | 1,914,668.6 | 30 | 1,914,668.6 | 32 | 1,914,668.6 | 24 | 1,914,668.6 | 33 | 1,914,668.6 | 86 |
| a280-c12-w15-1000-1200 | 51 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 |
| | 61 | 804,818.3 | 1 | 804,818.3 | 1 | 804,818.3 | 1 | 804,818.3 | 1 | 804,818.3 | 1 | 804,818.3 | 1 |
| | 71 | 906,053.2 | 1 | 906,053.2 | 1 | 906,053.2 | 1 | 906,053.2 | 1 | 906,053.2 | 1 | 906,053.2 | 3 |
| | 81 | 1,107,502.3 | 1 | 1,107,502.3 | 1 | 1,107,502.3 | 1 | 1,107,502.3 | 1 | 1,107,502.3 | 1 | 1,107,502.3 | 1 |
| | 91 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 6 | 1,208,755.0 | 17 |
| | 101 | 1,109,508.7 | 3 | 1,109,508.7 | 4 | 1,109,508.7 | 4 | 1,109,508.7 | 3 | 1,109,508.7 | 3 | 1,109,508.7 | 12 |
| | 111 | 1,210,448.9 | 105 | 1,210,448.9 | 110 | 1,210,448.9 | 122 | 1,210,448.9 | 93 | 1,210,448.9 | 128 | 1,210,448.9 | 172 |
| | 121 | 1,109,658.4 | 468 | 1,109,658.4 | 500 | 1,109,658.4 | 527 | 1,109,658.4 | 561 | 1,109,658.4 | 659 | 1,109,658.4 | 2392 |
| | 131 | 1,411,925.7 | 1229 | 1,411,925.7 | 1321 | – | – | 1,411,925.7 | 1241 | – | – | – | – |
| | 141 | 1,712,786.2 | 24 | 1,712,786.2 | 25 | 1,712,786.2 | 35 | 1,712,709.7 | 10 | 1,712,709.7 | 11 | 1,712,709.7 | 27 |
| | 151 | 1,613,934.0 | 2176 | 1,613,934.0 | 2438 | 1,613,934.0 | 2535 | 1,613,934.0 | 2403 | 1,613,934.0 | 2855 | – | – |
| a280-c12-w15-1500-2000 | 51 | 503,814.4 | 2 | 503,814.4 | 2 | 503,787.7 | 3 | 503,814.4 | 2 | 503,814.4 | 2 | 503,787.7 | 12 |
| | 61 | 604,679.4 | 2 | 604,679.4 | 3 | 604,679.4 | 3 | 604,679.4 | 3 | 604,679.4 | 3 | 604,679.4 | 20 |
| | 71 | 705,185.5 | 57 | 705,185.5 | 60 | 705,185.5 | 111 | 705,185.5 | 69 | 705,185.5 | 57 | 705,185.5 | 568 |
| | 81 | 706,430.9 | 5 | 706,430.9 | 5 | 706,430.9 | 6 | 706,430.9 | 5 | 706,430.9 | 7 | 706,430.9 | 38 |
| | 91 | 807,869.2 | 180 | 807,869.2 | 197 | 807,869.2 | 262 | 807,869.2 | 200 | 807,869.2 | 239 | 807,869.2 | 1503 |
| | 101 | 907,929.9 | 308 | 907,929.9 | 331 | 907,929.9 | 434 | 907,929.9 | 298 | 907,929.9 | 418 | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | 1,010,654.3 | 641 | 1,010,654.3 | 683 | 1,010,654.3 | 566 | 1,010,654.3 | 479 | 1,010,654.3 | 844 | – | – |
| | 131 | 1,110,354.4 | 2005 | 1,110,354.4 | 2172 | 1,110,354.4 | 2626 | 1,110,354.4 | 2195 | 1,110,354.4 | 2962 | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-500-1000 | 51 | 604,267.6 | 1 | 604,267.6 | 1 | 604,267.6 | 2 | 604,267.6 | 1 | 604,267.6 | 1 | 604,267.6 | 5 |
| | 61 | 705,243.8 | 15 | 705,243.8 | 17 | 705,243.8 | 28 | 705,243.8 | 18 | 705,243.8 | 20 | 705,243.8 | 527 |
| | 71 | 806,168.4 | 5 | 806,168.4 | 5 | 806,168.4 | 7 | 806,168.4 | 5 | 806,168.4 | 7 | 806,168.4 | 36 |
| | 81 | 1,007,693.1 | 58 | 1,007,693.1 | 60 | 1,007,693.1 | 83 | 1,007,693.1 | 75 | 1,007,693.1 | 88 | 1,007,693.1 | 3484 |
| | 91 | 1,207,860.4 | 75 | 1,207,860.4 | 80 | 1,108,446.3 | 3 | 1,207,860.4 | 82 | 1,207,860.4 | 86 | 1,108,446.3 | 10 |
| | 101 | 1,209,070.0 | 42 | 1,209,070.0 | 44 | 1,209,070.0 | 39 | 1,209,070.0 | 40 | 1,209,070.0 | 50 | 1,209,070.0 | 131 |
| | 111 | 1,309,885.7 | 3462 | – | – | 1,309,853.7 | 3194 | – | – | – | – | – | – |
| | 121 | 1,410,716.8 | 2184 | 1,410,716.8 | 2257 | 1,410,716.8 | 2784 | 1,410,716.8 | 2660 | 1,410,716.8 | 2986 | 1,410,636.4 | 3076 |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | 1,512,681.0 | 220 | 1,512,681.0 | 231 | 1,512,681.0 | 443 | 1,512,681.0 | 259 | 1,512,681.0 | 282 | 1,512,681.0 | 2257 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-1000-1200 | 51 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 |
| | 61 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 |
| | 71 | 805,689.5 | 17 | 805,689.5 | 18 | 805,689.5 | 16 | 805,689.5 | 22 | 805,689.5 | 19 | 805,689.5 | 63 |
| | 81 | 1,006,722.9 | 2 | 1,006,722.9 | 2 | 1,006,722.9 | 2 | 1,006,722.9 | 2 | 1,006,722.9 | 2 | 1,006,722.9 | 4 |
| | 91 | 1,107,900.5 | 30 | 1,107,900.5 | 30 | 1,107,900.5 | 24 | 1,107,900.5 | 47 | 1,107,900.5 | 51 | 1,107,900.5 | 128 |
| | 101 | 1,108,956.7 | 38 | 1,108,956.7 | 38 | 1,108,956.7 | 41 | 1,108,956.7 | 33 | 1,108,956.7 | 31 | 1,108,956.7 | 94 |
| | 111 | 1,210,511.0 | 59 | 1,210,511.0 | 59 | 1,210,302.6 | 13 | 1,210,511.0 | 77 | 1,210,511.0 | 72 | 1,210,302.6 | 44 |
| | 121 | 1,311,254.9 | 12 | 1,311,254.9 | 13 | 1,311,254.9 | 16 | 1,311,254.9 | 13 | 1,311,254.9 | 15 | 1,311,254.9 | 238 |
| | 131 | 1,209,851.0 | 1145 | 1,209,851.0 | 1172 | 1,209,851.0 | 1770 | 1,209,842.1 | 2119 | 1,209,791.7 | 471 | – | – |
| | 141 | 1,311,890.3 | 344 | 1,311,890.3 | 358 | 1,311,890.3 | 395 | 1,311,890.3 | 399 | 1,311,890.3 | 463 | 1,311,890.3 | 2748 |
| | 151 | 1,412,324.4 | 1551 | 1,412,324.4 | 1610 | 1,412,324.4 | 2361 | 1,412,324.4 | 2181 | 1,412,324.4 | 2322 | – | – |

*Continued on next page*

Table 10 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w30-1500-2000 | 51 | 503,561.4 | 29 | 503,561.4 | 34 | 503,561.4 | 64 | 503,561.4 | 37 | 503,561.4 | 50 | 503,561.4 | 915 |
| | 61 | 504,529.7 | 7 | 504,529.7 | 8 | 504,529.7 | 8 | 504,529.7 | 7 | 504,529.7 | 11 | 504,529.7 | 865 |
| | 71 | 606,090.7 | 57 | 606,090.7 | 59 | 606,090.7 | 78 | 606,090.7 | 84 | 606,090.7 | 101 | 606,090.7 | 1450 |
| | 81 | 706,249.4 | 181 | 706,249.4 | 202 | 706,249.4 | 197 | 706,249.4 | 159 | 706,249.4 | 316 | 706,249.4 | 3185 |
| | 91 | 706,838.4 | 1546 | 706,838.4 | 1622 | 706,812.6 | 1979 | 706,838.4 | 2606 | 706,838.4 | 3296 | – | – |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | 808,634.6 | 38 | 808,634.6 | 40 | 808,634.6 | 51 | 808,634.6 | 39 | 808,634.6 | 52 | 808,634.6 | 290 |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-500-1000 | 51 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 3 | 604,119.7 | 6 |
| | 61 | 704,162.2 | 164 | 704,162.2 | 176 | 704,162.2 | 398 | 704,162.2 | 220 | 704,162.2 | 201 | – | – |
| | 71 | 805,106.1 | 13 | 805,106.1 | 14 | 805,104.4 | 20 | 805,106.1 | 17 | 805,106.1 | 18 | 805,104.4 | 111 |
| | 81 | 906,398.3 | 91 | 906,398.3 | 105 | 906,398.3 | 120 | 906,398.3 | 105 | 906,398.3 | 134 | 906,398.3 | 633 |
| | 91 | 907,150.1 | 49 | 907,150.1 | 57 | 907,150.1 | 91 | 907,150.1 | 285 | 907,150.1 | 421 | – | – |
| | 101 | 1,208,715.6 | 377 | 1,208,715.6 | 398 | 1,208,715.6 | 688 | 1,208,715.6 | 460 | 1,208,715.6 | 513 | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1000-1200 | 51 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 2 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 4 |
| | 61 | 504,150.0 | 3 | 504,150.0 | 3 | 504,150.0 | 3 | 504,150.0 | 3 | 504,150.0 | 3 | 504,150.0 | 9 |
| | 71 | 704,908.1 | 5 | 704,908.1 | 5 | 704,908.1 | 6 | 704,908.1 | 6 | 704,908.1 | 6 | 704,908.1 | 25 |
| | 81 | 806,493.1 | 151 | 806,493.1 | 155 | 806,493.1 | 162 | 806,493.1 | 128 | 806,493.1 | 169 | 806,493.1 | 414 |
| | 91 | 907,274.8 | 36 | 907,274.8 | 38 | 907,274.8 | 44 | 907,274.8 | 39 | 907,274.8 | 42 | 907,274.8 | 167 |
| | 101 | 1,008,730.3 | 8 | 1,008,730.3 | 8 | 1,008,730.3 | 9 | 1,008,730.3 | 8 | 1,008,730.3 | 7 | 1,008,730.3 | 22 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | 1,109,844.1 | 1570 | 1,109,844.1 | 1648 | 1,109,844.1 | 2584 | 1,109,844.1 | 1757 | 1,109,844.1 | 2050 | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | 1,312,054.7 | 2444 | 1,312,054.7 | 2904 | – | – |
| a280-c12-w45-1500-2000 | 51 | 503,493.1 | 2 | 503,493.1 | 2 | 503,493.1 | 3 | 503,493.1 | 2 | 503,493.1 | 3 | 503,493.1 | 18 |
| | 61 | 604,088.7 | 29 | 604,088.7 | 32 | 604,088.7 | 59 | 604,088.7 | 48 | 604,088.7 | 96 | 604,088.7 | 831 |
| | 71 | 604,752.6 | 1612 | 604,752.6 | 1703 | 604,752.6 | 1984 | – | – | – | – | – | – |
| | 81 | 606,558.4 | 86 | 606,558.4 | 97 | 606,558.4 | 125 | 606,558.4 | 127 | 606,558.4 | 154 | 606,558.4 | 886 |
| | 91 | 706,935.5 | 15 | 706,935.5 | 16 | 706,935.5 | 17 | 706,935.5 | 20 | 706,935.5 | 20 | 706,935.5 | 69 |
| | 101 | 709,712.2 | 773 | 709,712.2 | 864 | 709,569.6 | 1148 | 709,712.2 | 1127 | 709,712.2 | 2195 | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| brd14051-c12-w45-3000-4000 | 51 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 |
| | 61 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| | 71 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 |
| | 81 | 1,336,264.6 | 11 | 1,336,264.6 | 11 | 1,336,264.6 | 12 | 1,336,264.6 | 11 | 1,336,264.6 | 11 | 1,336,264.6 | 20 |
| | 91 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 |
| | 101 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 |
| | 111 | 2,052,469.4 | 2 | 2,052,469.4 | 2 | 2,052,469.4 | 3 | 2,052,469.4 | 2 | 2,052,469.4 | 2 | 2,052,469.4 | 3 |
| | 121 | 2,057,345.9 | 202 | 2,057,345.9 | 207 | 2,057,345.9 | 223 | 2,057,345.9 | 185 | 2,057,345.9 | 190 | 2,057,345.9 | 443 |
| | 131 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 |
| | 141 | 2,468,906.2 | 2 | 2,468,906.2 | 2 | 2,468,906.2 | 2 | 2,468,906.2 | 2 | 2,468,906.2 | 2 | 2,468,906.2 | 8 |
| | 151 | 2,570,792.6 | 5 | 2,570,792.6 | 5 | 2,570,792.6 | 6 | 2,570,792.6 | 5 | 2,570,792.6 | 7 | 2,570,792.6 | 18 |

*Continued on next page*

Table 10 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| brd14051-c12-w60-3000-4000 | 51 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 |
| | 61 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 |
| | 71 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 |
| | 81 | 1,639,313.8 | 0 | 1,639,313.8 | 0 | 1,639,313.8 | 1 | 1,639,313.8 | 0 | 1,639,313.8 | 0 | 1,639,313.8 | 1 |
| | 91 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 3 |
| | 101 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 4 |
| | 111 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 7 |
| | 121 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 2 |
| | 131 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 |
| | 141 | 2,262,338.5 | 126 | 2,262,338.5 | 131 | 2,262,338.5 | 99 | 2,262,338.5 | 131 | 2,262,338.5 | 86 | 2,262,338.5 | 95 |
| | 151 | 2,469,678.6 | 316 | 2,469,678.6 | 339 | 2,469,678.6 | 468 | 2,469,678.6 | 349 | 2,469,678.6 | 417 | 2,469,678.6 | 2241 |
| brd14051-c12-w75-3000-4000 | 51 | 1,025,843.4 | 0 | 1,025,843.4 | 1 | 1,025,843.4 | 0 | 1,025,843.4 | 1 | 1,025,843.4 | 0 | 1,025,843.4 | 0 |
| | 61 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 |
| | 71 | 1,434,817.6 | 9 | 1,434,817.6 | 9 | 1,434,817.6 | 9 | 1,434,817.6 | 9 | 1,434,817.6 | 9 | 1,434,817.6 | 12 |
| | 81 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 |
| | 91 | 1,539,992.0 | 1531 | 1,539,992.0 | 1546 | 1,539,992.0 | 1841 | 1,539,992.0 | 1389 | 1,539,992.0 | 1419 | 1,539,992.0 | 2001 |
| | 101 | 1,852,282.5 | 82 | 1,852,282.5 | 85 | 1,852,282.5 | 93 | 1,852,282.5 | 82 | 1,852,282.5 | 86 | 1,852,282.5 | 139 |
| | 111 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 3 |
| | 121 | 1,955,832.7 | 2 | 1,955,832.7 | 2 | 1,955,832.7 | 2 | 1,955,832.7 | 2 | 1,955,832.7 | 2 | 1,955,832.7 | 2 |
| | 131 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 2 |
| | 141 | 1,850,487.9 | 4 | 1,850,487.9 | 4 | 1,850,487.9 | 4 | 1,850,487.9 | 4 | 1,850,487.9 | 4 | 1,850,487.9 | 5 |
| | 151 | 2,055,058.8 | 10 | 2,055,058.8 | 11 | 2,055,058.8 | 43 | 2,055,058.8 | 11 | 2,055,058.8 | 14 | 2,055,058.8 | 305 |
| brd14051-c12-w90-3000-4000 | 51 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 |
| | 61 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 |
| | 71 | 1,331,512.0 | 0 | 1,331,512.0 | 1 | 1,331,512.0 | 0 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 |
| | 81 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 |
| | 91 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 3 |
| | 101 | 1,753,074.5 | 1 | 1,753,074.5 | 1 | 1,753,074.5 | 1 | 1,753,074.5 | 1 | 1,753,074.5 | 1 | 1,753,074.5 | 4 |
| | 111 | 1,543,238.8 | 4 | 1,543,238.8 | 5 | 1,543,238.8 | 5 | 1,543,238.8 | 5 | 1,543,238.8 | 5 | 1,543,238.8 | 12 |
| | 121 | 2,057,692.2 | 31 | 2,057,692.2 | 34 | 2,057,692.2 | 50 | 2,057,692.2 | 33 | 2,057,692.2 | 42 | 2,057,692.2 | 247 |
| | 131 | 2,067,039.1 | 2 | 2,067,039.1 | 3 | 2,067,039.1 | 3 | 2,067,039.1 | 2 | 2,067,039.1 | 2 | 2,067,039.1 | 8 |
| | 141 | 2,256,332.6 | 61 | 2,256,332.6 | 64 | 2,256,332.6 | 80 | 2,256,332.6 | 73 | 2,256,332.6 | 71 | 2,256,332.6 | 164 |
| | 151 | 1,958,937.6 | 1394 | 1,958,937.6 | 1461 | 1,958,937.6 | 1485 | 1,958,937.6 | 1756 | 1,958,937.6 | 1386 | – | – |
| brd14051-c12-w120-3000-4000 | 51 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 |
| | 61 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 1 |
| | 71 | 1,233,936.5 | 1 | 1,233,936.5 | 1 | 1,233,936.5 | 1 | 1,233,936.5 | 1 | 1,233,936.5 | 1 | 1,233,936.5 | 2 |
| | 81 | 1,335,699.7 | 1 | 1,335,699.7 | 1 | 1,335,699.7 | 1 | 1,335,699.7 | 1 | 1,335,699.7 | 2 | 1,335,699.7 | 2 |
| | 91 | 1,444,717.8 | 1 | 1,444,717.8 | 1 | 1,444,717.8 | 1 | 1,444,717.8 | 1 | 1,444,717.8 | 1 | 1,444,717.8 | 1 |
| | 101 | 1,849,460.7 | 3 | 1,849,460.7 | 3 | 1,849,460.7 | 3 | 1,849,460.7 | 3 | 1,849,460.7 | 3 | 1,849,460.7 | 4 |
| | 111 | 1,539,836.6 | 67 | 1,539,836.6 | 70 | 1,539,836.6 | 80 | 1,539,836.6 | 12 | 1,539,836.6 | 13 | 1,539,836.6 | 41 |
| | 121 | 1,752,085.8 | 65 | 1,752,085.8 | 67 | 1,752,085.8 | 91 | 1,752,085.8 | 66 | 1,752,085.8 | 92 | 1,752,085.8 | 113 |
| | 131 | 1,859,030.9 | 3 | 1,859,030.9 | 3 | 1,858,448.6 | 21 | 1,859,030.9 | 4 | 1,859,030.9 | 4 | 1,858,448.6 | 23 |
| | 141 | 1,955,906.1 | 46 | 1,955,906.1 | 47 | 1,955,906.1 | 188 | 1,955,906.1 | 619 | 1,955,906.1 | 265 | 1,955,906.1 | 2709 |
| | 151 | 1,854,602.8 | 502 | 1,854,602.8 | 527 | 1,854,602.8 | 2768 | 1,854,602.8 | 345 | 1,854,602.8 | 853 | – | – |
| d18512-c12-w45-3000-4000 | 51 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 |
| | 61 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 |
| | 71 | 1,435,205.2 | 3 | 1,435,205.2 | 3 | 1,435,205.2 | 3 | 1,435,205.2 | 3 | 1,435,205.2 | 3 | 1,435,205.2 | 4 |
| | 81 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 |
| | 91 | 1,643,183.4 | 1 | 1,643,183.4 | 1 | 1,643,183.4 | 1 | 1,643,183.4 | 1 | 1,643,183.4 | 1 | 1,643,183.4 | 1 |
| | 101 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 3 |
| | 111 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 8 |
| | 121 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 |
| | 131 | 2,264,680.1 | 9 | 2,264,680.1 | 10 | 2,264,680.1 | 11 | 2,264,680.1 | 10 | 2,264,680.1 | 11 | 2,264,680.1 | 53 |
| | 141 | 2,470,199.4 | 2 | 2,470,199.4 | 2 | 2,470,199.4 | 2 | 2,470,199.4 | 2 | 2,470,199.4 | 2 | 2,470,199.4 | 7 |
| | 151 | 2,364,931.9 | 20 | 2,364,931.9 | 20 | 2,364,931.9 | 34 | 2,364,931.9 | 20 | 2,364,931.9 | 21 | 2,364,931.9 | 17 |

*Continued on next page*

Table 10 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| d18512-c12-w60-3000-4000 | 51 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 |
| | 61 | 1,129,637.7 | 81 | 1,129,637.7 | 81 | 1,129,637.7 | 82 | 1,129,637.7 | 80 | 1,129,637.7 | 82 | 1,129,637.7 | 96 |
| | 71 | 1,332,573.3 | 1 | 1,332,573.3 | 1 | 1,332,573.3 | 1 | 1,332,573.3 | 0 | 1,332,573.3 | 1 | 1,332,573.3 | 1 |
| | 81 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 |
| | 91 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 |
| | 101 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 7 |
| | 111 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 9 |
| | 121 | 2,369,463.5 | 2 | 2,369,463.5 | 2 | 2,369,386.9 | 2 | 2,369,463.5 | 2 | 2,369,463.5 | 2 | 2,369,386.9 | 8 |
| | 131 | 2,163,246.2 | 5 | 2,163,246.2 | 5 | 2,163,246.2 | 6 | 2,163,246.2 | 5 | 2,163,246.2 | 6 | 2,163,246.2 | 43 |
| | 141 | 2,058,465.5 | 538 | 2,058,465.5 | 599 | 2,058,465.5 | 284 | 2,058,465.5 | 624 | 2,058,465.5 | 677 | – | – |
| | 151 | 2,471,999.8 | 5 | 2,471,999.8 | 5 | 2,471,999.8 | 5 | 2,471,999.8 | 5 | 2,471,999.8 | 5 | 2,471,999.8 | 9 |
| d18512-c12-w75-3000-4000 | 51 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 |
| | 61 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 |
| | 71 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 |
| | 81 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 1 |
| | 91 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 2 |
| | 101 | 1,643,577.1 | 279 | 1,643,577.1 | 288 | 1,643,577.1 | 314 | 1,643,577.1 | 278 | 1,643,577.1 | 309 | 1,643,577.1 | 700 |
| | 111 | 1,853,832.7 | 1 | 1,853,832.7 | 1 | 1,853,832.7 | 1 | 1,853,832.7 | 1 | 1,853,832.7 | 1 | 1,853,832.7 | 2 |
| | 121 | 2,162,731.8 | 2 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 2 |
| | 131 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 3 |
| | 141 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 8 |
| | 151 | 2,063,898.0 | 44 | 2,063,898.0 | 45 | 2,063,898.0 | 52 | 2,063,898.0 | 77 | 2,063,898.0 | 41 | 2,063,898.0 | 180 |
| d18512-c12-w90-3000-4000 | 51 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 |
| | 61 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 1 |
| | 71 | 1,230,829.6 | 1 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 1 |
| | 81 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 2 |
| | 91 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 |
| | 101 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 2 | 1,643,364.4 | 1 | 1,643,364.4 | 2 | 1,643,364.4 | 4 |
| | 111 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 2 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 3 |
| | 121 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 4 | 2,059,222.6 | 3 | 2,059,222.6 | 4 | 2,059,222.6 | 6 |
| | 131 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 10 |
| | 141 | 1,955,788.1 | 7 | 1,955,788.1 | 8 | 1,955,788.1 | 8 | 1,955,788.1 | 8 | 1,955,788.1 | 9 | 1,955,788.1 | 40 |
| | 151 | 2,467,660.9 | 96 | 2,467,660.9 | 102 | 2,467,660.9 | 125 | 2,467,660.9 | 127 | 2,467,660.9 | 145 | – | – |
| d18512-c12-w120-3000-4000 | 51 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 |
| | 61 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 |
| | 71 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 2 |
| | 81 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 6 |
| | 91 | 1,442,136.0 | 2 | 1,442,136.0 | 2 | 1,442,136.0 | 2 | 1,442,136.0 | 2 | 1,442,136.0 | 2 | 1,442,136.0 | 2 |
| | 101 | 1,545,265.4 | 3 | 1,545,265.4 | 3 | 1,545,265.4 | 3 | 1,545,265.4 | 3 | 1,545,265.4 | 3 | 1,545,265.4 | 23 |
| | 111 | 1,749,053.5 | 2 | 1,749,053.5 | 2 | 1,749,053.5 | 2 | 1,749,053.5 | 2 | 1,749,053.5 | 2 | 1,749,053.5 | 3 |
| | 121 | 1,958,857.7 | 3 | 1,958,857.7 | 3 | 1,958,857.7 | 4 | 1,958,857.7 | 3 | 1,958,857.7 | 4 | 1,958,857.7 | 7 |
| | 131 | 1,749,662.0 | 2822 | 1,749,662.0 | 2961 | 1,749,662.0 | 2746 | 1,749,662.0 | 2265 | 1,749,662.0 | 1261 | – | – |
| | 141 | 1,955,366.4 | 333 | 1,955,366.4 | 348 | 1,955,366.4 | 299 | 1,955,366.4 | 369 | 1,955,366.4 | 327 | 1,955,366.4 | 1604 |
| | 151 | 2,059,976.1 | 16 | 2,059,976.1 | 16 | 2,059,976.1 | 23 | 2,059,976.1 | 17 | 2,059,976.1 | 18 | 2,059,976.1 | 386 |
| fn14461-c12-w45-3000-4000 | 51 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 |
| | 61 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 |
| | 71 | 917,355.6 | 2 | 917,355.6 | 2 | 917,355.6 | 2 | 917,355.6 | 2 | 917,355.6 | 2 | 917,355.6 | 3 |
| | 81 | 921,221.2 | 5 | 921,221.2 | 6 | 921,221.2 | 6 | 921,221.2 | 6 | 921,221.2 | 8 | 921,221.2 | 10 |
| | 91 | 1,021,195.6 | 16 | 1,021,195.6 | 16 | 1,021,195.6 | 19 | 1,021,195.6 | 17 | 1,021,195.6 | 15 | 1,021,195.6 | 31 |
| | 101 | 1,227,378.3 | 6 | 1,227,378.3 | 6 | 1,227,378.3 | 8 | 1,227,378.3 | 6 | 1,227,378.3 | 6 | 1,227,378.3 | 16 |
| | 111 | 1,329,296.4 | 23 | 1,329,296.4 | 23 | 1,329,296.4 | 26 | 1,329,296.4 | 24 | 1,329,296.4 | 32 | 1,329,296.4 | 44 |
| | 121 | 1,431,497.8 | 14 | 1,431,497.8 | 15 | 1,431,497.8 | 17 | 1,431,497.8 | 18 | 1,431,497.8 | 18 | 1,431,497.8 | 37 |
| | 131 | 1,540,748.8 | 5 | 1,540,748.8 | 5 | 1,540,748.8 | 5 | 1,540,748.8 | 5 | 1,540,748.8 | 5 | 1,540,748.8 | 8 |
| | 141 | 1,642,732.8 | 94 | 1,642,732.8 | 97 | 1,642,732.8 | 91 | 1,642,732.8 | 52 | 1,642,732.8 | 93 | 1,642,732.8 | 240 |
| | 151 | 1,638,676.9 | 33 | 1,638,676.9 | 33 | 1,638,676.9 | 41 | 1,638,676.9 | 38 | 1,638,676.9 | 46 | 1,638,676.9 | 131 |

*Continued on next page*

Table 10 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| fnl4461-c12-w60-3000-4000 | 51 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 2 |
| | 61 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 2 |
| | 71 | 819,134.2 | 8 | 819,134.2 | 8 | 819,134.2 | 9 | 819,134.2 | 7 | 819,134.2 | 6 | 819,134.2 | 38 |
| | 81 | 921,097.5 | 12 | 921,097.5 | 13 | 921,097.5 | 19 | 921,097.5 | 15 | 921,097.5 | 16 | 921,097.5 | 24 |
| | 91 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 5 |
| | 101 | 1,125,975.0 | 46 | 1,125,975.0 | 47 | 1,125,975.0 | 57 | 1,125,975.0 | 54 | 1,125,975.0 | 85 | 1,125,975.0 | 205 |
| | 111 | 1,329,538.8 | 18 | 1,329,538.8 | 18 | 1,329,538.8 | 18 | 1,329,538.8 | 17 | 1,329,538.8 | 18 | 1,329,538.8 | 53 |
| | 121 | 1,230,909.8 | 16 | 1,230,909.8 | 16 | 1,230,909.8 | 16 | 1,230,909.8 | 21 | 1,230,909.8 | 19 | 1,230,909.8 | 95 |
| | 131 | 1,538,343.5 | 336 | 1,538,343.5 | 342 | 1,538,343.5 | 457 | 1,538,343.5 | 425 | 1,538,343.5 | 380 | 1,538,343.5 | 1164 |
| | 141 | 1,438,867.9 | 724 | 1,438,867.9 | 752 | 1,438,867.9 | 869 | 1,438,867.9 | 473 | 1,438,867.9 | 546 | – | – |
| | 151 | 1,538,532.2 | 2563 | 1,538,532.2 | 2601 | 1,538,532.2 | 3173 | 1,538,532.2 | 2877 | 1,538,532.2 | 2986 | – | – |
| fnl4461-c12-w75-3000-4000 | 51 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 1 |
| | 61 | 717,332.9 | 1 | 717,332.9 | 1 | 717,332.9 | 1 | 717,332.9 | 1 | 717,332.9 | 1 | 717,332.9 | 1 |
| | 71 | 818,324.2 | 2 | 818,324.2 | 2 | 818,324.2 | 2 | 818,324.2 | 2 | 818,324.2 | 2 | 818,324.2 | 3 |
| | 81 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 9 |
| | 91 | 1,022,952.2 | 4 | 1,022,952.2 | 3 | 1,022,952.2 | 4 | 1,022,952.2 | 4 | 1,022,952.2 | 4 | 1,022,952.2 | 12 |
| | 101 | 1,225,360.3 | 33 | 1,225,360.3 | 34 | 1,225,360.3 | 43 | 1,225,360.3 | 39 | 1,225,360.3 | 45 | 1,225,360.3 | 139 |
| | 111 | 1,130,018.5 | 51 | 1,130,018.5 | 50 | 1,130,018.5 | 52 | 1,130,018.5 | 51 | 1,130,018.5 | 53 | 1,130,018.5 | 97 |
| | 121 | 1,333,932.4 | 53 | 1,333,932.4 | 52 | 1,333,932.4 | 64 | 1,333,932.4 | 60 | 1,333,932.4 | 63 | 1,333,932.4 | 200 |
| | 131 | 1,434,567.2 | 202 | 1,434,567.2 | 205 | 1,434,567.2 | 244 | 1,434,567.2 | 191 | 1,434,567.2 | 230 | 1,434,567.2 | 947 |
| | 141 | 1,537,958.0 | 201 | 1,537,958.0 | 199 | 1,537,958.0 | 189 | 1,537,958.0 | 191 | 1,537,958.0 | 217 | 1,537,958.0 | 739 |
| | 151 | 1,440,924.3 | 176 | 1,440,924.3 | 174 | 1,440,924.3 | 223 | 1,440,924.3 | 223 | 1,440,924.3 | 246 | 1,440,924.3 | 2836 |
| fnl4461-c12-w90-3000-4000 | 51 | 714,246.5 | 0 | 714,246.5 | 0 | 714,229.4 | 1 | 714,246.5 | 0 | 714,246.5 | 0 | 714,229.4 | 1 |
| | 61 | 817,185.5 | 442 | 817,185.5 | 419 | 817,013.2 | 183 | 817,185.5 | 502 | 817,185.5 | 497 | 817,013.2 | 258 |
| | 71 | 815,054.6 | 3 | 815,054.6 | 3 | 815,054.6 | 3 | 815,054.6 | 4 | 815,054.6 | 4 | 815,054.6 | 10 |
| | 81 | 921,498.3 | 4 | 921,498.3 | 4 | 921,498.3 | 4 | 921,498.3 | 3 | 921,498.3 | 4 | 921,498.3 | 8 |
| | 91 | 923,090.8 | 13 | 923,090.8 | 12 | 923,090.8 | 17 | 923,090.8 | 17 | 923,090.8 | 15 | 923,090.8 | 45 |
| | 101 | 1,126,342.8 | 229 | 1,126,342.8 | 234 | 1,126,342.8 | 496 | 1,126,342.8 | 295 | 1,126,342.8 | 462 | – | – |
| | 111 | 1,227,372.2 | 551 | 1,227,372.2 | 542 | 1,227,372.2 | 612 | 1,227,372.2 | 526 | 1,227,372.2 | 667 | – | – |
| | 121 | 1,331,347.9 | 332 | 1,331,347.9 | 347 | 1,331,347.9 | 355 | 1,331,347.9 | 445 | 1,331,347.9 | 391 | 1,331,347.9 | 2565 |
| | 131 | 1,230,658.8 | 627 | 1,230,658.8 | 629 | 1,230,658.8 | 1035 | 1,230,658.8 | 757 | 1,230,658.8 | 472 | – | – |
| | 141 | 1,336,169.2 | 737 | 1,336,169.2 | 734 | 1,336,169.2 | 759 | 1,336,169.2 | 576 | 1,336,169.2 | 707 | 1,336,169.2 | 1656 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w120-3000-4000 | 51 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 3 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 14 |
| | 61 | 615,855.5 | 2 | 615,855.5 | 3 | 615,855.5 | 3 | 615,855.5 | 3 | 615,855.5 | 4 | 615,855.5 | 21 |
| | 71 | 617,258.2 | 3 | 617,258.2 | 3 | 617,258.2 | 3 | 617,258.2 | 3 | 617,258.2 | 4 | 617,258.2 | 59 |
| | 81 | 819,609.3 | 144 | 819,609.3 | 153 | 819,609.3 | 309 | 819,609.3 | 192 | 819,609.3 | 283 | – | – |
| | 91 | 819,189.6 | 73 | 819,189.6 | 84 | 819,189.6 | 145 | 819,189.6 | 96 | 819,189.6 | 150 | – | – |
| | 101 | 1,026,917.6 | 500 | 1,026,917.6 | 451 | 1,026,917.6 | 828 | 1,026,917.6 | 725 | 1,026,917.6 | 857 | – | – |
| | 111 | 1,025,469.6 | 1387 | 1,025,469.6 | 1469 | 1,025,469.6 | 1883 | 1,025,469.6 | 2373 | 1,025,469.6 | 2588 | – | – |
| | 121 | 1,128,918.1 | 100 | 1,128,918.1 | 117 | 1,128,918.1 | 149 | 1,128,918.1 | 100 | 1,128,899.5 | 623 | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| nrw1379-c12-w45-3000-4000 | 51 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 |
| | 61 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 3 |
| | 71 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 |
| | 81 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 3 | 1,231,183.1 | 3 |
| | 91 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 |
| | 101 | 1,329,356.9 | 12 | 1,329,356.9 | 12 | 1,329,356.9 | 12 | 1,329,356.9 | 12 | 1,329,356.9 | 13 | 1,329,356.9 | 33 |
| | 111 | 1,434,738.9 | 10 | 1,434,738.9 | 11 | 1,434,738.9 | 9 | 1,434,738.9 | 11 | 1,434,738.9 | 10 | 1,434,738.9 | 20 |
| | 121 | 1,538,975.6 | 29 | 1,538,975.6 | 30 | 1,538,975.6 | 29 | 1,538,975.6 | 29 | 1,538,975.6 | 29 | 1,538,975.6 | 57 |
| | 131 | 1,840,937.1 | 67 | 1,840,937.1 | 68 | 1,840,937.1 | 76 | 1,840,937.1 | 48 | 1,840,937.1 | 49 | 1,840,937.1 | 96 |
| | 141 | 1,945,073.1 | 43 | 1,945,073.1 | 43 | 1,945,073.1 | 56 | 1,945,073.1 | 49 | 1,945,073.1 | 56 | 1,945,073.1 | 244 |
| | 151 | 2,050,358.3 | 8 | 2,050,358.3 | 8 | 2,050,358.3 | 5 | 2,050,358.3 | 8 | 2,050,358.3 | 8 | 2,050,358.3 | 12 |

*Continued on next page*

Table 10 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| nrw1379-c12-w60-3000-4000 | 51 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 |
| | 61 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 4 |
| | 71 | 1,122,155.8 | 2 | 1,122,155.8 | 2 | 1,122,155.8 | 2 | 1,122,155.8 | 2 | 1,122,155.8 | 2 | 1,122,155.8 | 3 |
| | 81 | 1,226,526.1 | 1 | 1,226,526.1 | 1 | 1,226,526.1 | 1 | 1,226,526.1 | 1 | 1,226,526.1 | 1 | 1,226,526.1 | 2 |
| | 91 | 1,228,044.8 | 6 | 1,228,044.8 | 6 | 1,228,044.8 | 5 | 1,228,044.8 | 6 | 1,228,044.8 | 6 | 1,228,044.8 | 12 |
| | 101 | 1,331,871.7 | 2 | 1,331,871.7 | 2 | 1,331,871.7 | 2 | 1,331,871.7 | 2 | 1,331,871.7 | 2 | 1,331,871.7 | 3 |
| | 111 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 7 |
| | 121 | 1,539,615.2 | 85 | 1,539,615.2 | 86 | 1,539,615.2 | 101 | 1,539,615.2 | 88 | 1,539,615.2 | 103 | 1,539,615.2 | 175 |
| | 131 | 1,637,630.4 | 77 | 1,637,630.4 | 78 | 1,637,630.4 | 86 | 1,637,630.4 | 109 | 1,637,630.4 | 104 | 1,637,630.4 | 302 |
| | 141 | 1,946,218.6 | 28 | 1,946,218.6 | 29 | 1,946,218.6 | 33 | 1,946,218.6 | 31 | 1,946,218.6 | 39 | 1,946,218.6 | 411 |
| | 151 | 1,743,758.8 | 191 | 1,743,758.8 | 195 | 1,743,758.8 | 290 | 1,743,758.8 | 146 | 1,743,758.8 | 117 | 1,743,758.8 | 1156 |
| nrw1379-c12-w75-3000-4000 | 51 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 1 |
| | 61 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 |
| | 71 | 1,020,804.5 | 1 | 1,020,804.5 | 2 | 1,020,804.5 | 2 | 1,020,804.5 | 1 | 1,020,804.5 | 2 | 1,020,804.5 | 4 |
| | 81 | 1,124,893.0 | 12 | 1,124,893.0 | 11 | 1,124,893.0 | 12 | 1,124,893.0 | 12 | 1,124,893.0 | 12 | 1,124,893.0 | 20 |
| | 91 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 4 | 1,229,438.5 | 3 | 1,229,438.5 | 4 | 1,229,438.5 | 7 |
| | 101 | 1,127,693.7 | 11 | 1,127,693.7 | 11 | 1,127,693.7 | 12 | 1,127,693.7 | 19 | 1,127,693.7 | 18 | 1,127,693.7 | 36 |
| | 111 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 10 |
| | 121 | 1,433,265.8 | 100 | 1,433,265.8 | 137 | 1,433,265.8 | 94 | 1,433,265.8 | 156 | 1,433,265.8 | 155 | 1,433,265.8 | 228 |
| | 131 | 1,537,208.9 | 8 | 1,537,208.9 | 8 | 1,537,208.9 | 9 | 1,537,208.9 | 9 | 1,537,208.9 | 10 | 1,537,208.9 | 40 |
| | 141 | 1,642,615.6 | 90 | 1,642,615.6 | 87 | 1,642,615.6 | 71 | 1,642,615.6 | 95 | 1,642,615.6 | 52 | 1,642,615.6 | 298 |
| | 151 | 1,644,354.3 | 402 | 1,644,354.3 | 398 | 1,644,354.3 | 433 | 1,644,354.3 | 400 | 1,644,354.3 | 426 | 1,644,354.3 | 889 |
| nrw1379-c12-w90-3000-4000 | 51 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 0 | 815,844.7 | 0 | 815,844.7 | 1 |
| | 61 | 1,222,461.1 | 1 | 1,222,461.1 | 1 | 1,222,461.1 | 0 | 1,222,461.1 | 1 | 1,222,461.1 | 1 | 1,222,461.1 | 1 |
| | 71 | 1,021,147.9 | 4 | 1,021,147.9 | 5 | 1,021,147.9 | 6 | 1,021,147.9 | 5 | 1,021,147.9 | 7 | 1,021,147.9 | 388 |
| | 81 | 1,023,927.9 | 13 | 1,023,927.9 | 14 | 1,023,927.9 | 15 | 1,023,927.9 | 12 | 1,023,927.9 | 21 | 1,023,927.9 | 1292 |
| | 91 | 1,323,415.2 | 5 | 1,323,415.2 | 5 | 1,323,415.2 | 6 | 1,323,415.2 | 4 | 1,323,415.2 | 4 | 1,323,415.2 | 44 |
| | 101 | 1,330,076.4 | 9 | 1,330,076.4 | 9 | 1,330,076.4 | 11 | 1,330,076.4 | 9 | 1,330,076.4 | 11 | 1,330,076.4 | 52 |
| | 111 | 1,230,435.8 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 12 |
| | 121 | 1,333,888.5 | 8 | 1,333,888.5 | 8 | 1,333,888.5 | 8 | 1,333,888.5 | 9 | 1,333,888.5 | 9 | 1,333,888.5 | 37 |
| | 131 | 1,333,662.5 | 23 | 1,333,662.5 | 24 | 1,333,662.5 | 37 | 1,333,662.5 | 26 | 1,333,662.5 | 43 | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,638,614.1 | 987 | 1,638,614.1 | 1012 | 1,638,614.1 | 692 | 1,638,614.1 | 793 | 1,638,614.1 | 791 | – | – |
| nrw1379-c12-w120-3000-4000 | 51 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 2 | 615,497.9 | 65 |
| | 61 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 |
| | 71 | 1,023,083.2 | 5 | 1,023,083.2 | 5 | 1,023,083.2 | 6 | 1,023,083.2 | 5 | 1,023,083.2 | 7 | 1,023,083.2 | 24 |
| | 81 | 923,992.7 | 7 | 923,992.7 | 7 | 923,992.7 | 6 | 923,992.7 | 6 | 923,992.7 | 7 | 923,992.7 | 17 |
| | 91 | 1,023,007.4 | 6 | 1,023,007.4 | 6 | 1,023,007.4 | 8 | 1,023,007.4 | 6 | 1,023,007.4 | 6 | 1,023,007.4 | 31 |
| | 101 | 1,229,648.7 | 25 | 1,229,648.7 | 26 | 1,229,648.7 | 22 | 1,229,648.7 | 42 | 1,229,648.7 | 20 | 1,229,648.7 | 62 |
| | 111 | 1,231,008.5 | 280 | 1,231,008.5 | 267 | 1,231,008.5 | 261 | 1,231,008.5 | 209 | 1,231,008.5 | 283 | 1,231,008.5 | 1060 |
| | 121 | 1,233,649.5 | 1621 | 1,233,649.5 | 1658 | 1,233,649.5 | 2843 | 1,233,649.5 | 2206 | 1,233,649.5 | 3398 | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | 1,639,335.0 | 79 | 1,639,335.0 | 86 | 1,639,335.0 | 119 | 1,639,335.0 | 92 | 1,639,335.0 | 103 | 1,639,335.0 | 529 |
| | 151 | 1,440,262.7 | 372 | 1,440,262.7 | 258 | 1,440,262.7 | 558 | 1,440,262.7 | 403 | 1,440,262.7 | 410 | – | – |
| Solved | | | 289 | | 288 | | 288 | | 288 | | 287 | | 255 |
| ∅ Time | | | 162.0 | | 156.8 | | 203.9 | | 177.8 | | 193.5 | | 235.2 |

**Table 11: Detailed computational results $\delta = 5$ and with two stacks**

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w15-500-1000 | 51 | 704,424.6 | 1 | 704,424.6 | 1 | 704,424.6 | 1 | 704,424.6 | 1 | 704,424.6 | 1 | 704,424.6 | 1 |
| | 61 | 905,151.5 | 1 | 905,151.5 | 1 | 905,151.5 | 1 | 905,151.5 | 1 | 905,151.5 | 1 | 905,151.5 | 1 |
| | 71 | 905,898.7 | 1 | 905,898.7 | 1 | 905,898.7 | 1 | 905,898.7 | 1 | 905,898.7 | 1 | 905,898.7 | 1 |
| | 81 | 1,307,681.0 | 2 | 1,307,681.0 | 3 | 1,307,681.0 | 3 | 1,307,681.0 | 3 | 1,307,681.0 | 4 | 1,307,681.0 | 6 |
| | 91 | 1,308,038.8 | 3 | 1,308,038.8 | 4 | 1,308,038.8 | 4 | 1,308,038.8 | 3 | 1,308,038.8 | 4 | 1,308,013.9 | 5 |
| | 101 | 1,510,575.3 | 1 | 1,510,526.0 | 1 | 1,510,526.0 | 2 | 1,510,575.3 | 2 | 1,510,526.0 | 2 | 1,510,526.0 | 2 |
| | 111 | 1,712,063.8 | 1 | 1,712,063.8 | 1 | 1,712,063.8 | 2 | 1,712,063.8 | 1 | 1,712,063.8 | 2 | 1,712,063.4 | 2 |
| | 121 | 1,512,235.2 | 21 | 1,512,235.2 | 28 | 1,512,235.2 | 33 | 1,512,235.2 | 24 | 1,512,235.2 | 45 | 1,512,235.2 | 84 |
| | 131 | 1,712,214.3 | 389 | 1,712,083.7 | 127 | 1,712,013.4 | 154 | 1,712,214.3 | 491 | 1,712,083.7 | 161 | 1,712,013.2 | 429 |
| | 141 | 1,913,308.1 | 54 | 1,913,308.1 | 50 | 1,913,266.8 | 71 | 1,913,308.1 | 44 | 1,913,308.1 | 66 | 1,913,266.8 | 203 |
| | 151 | 2,014,539.9 | 8 | 2,014,539.9 | 33 | 2,014,539.9 | 28 | 2,014,539.9 | 8 | 2,014,539.9 | 34 | 2,014,539.9 | 44 |
| a280-c12-w15-1000-1200 | 51 | 904,564.9 | 0 | 904,564.9 | 0 | 804,529.9 | 0 | 904,564.9 | 0 | 804,636.3 | 0 | 804,529.9 | 0 |
| | 61 | 804,962.9 | 1 | 804,962.9 | 1 | 804,962.9 | 1 | 804,962.9 | 1 | 804,962.9 | 1 | 804,962.9 | 1 |
| | 71 | 906,988.5 | 1 | 906,988.5 | 1 | 906,988.5 | 1 | 906,988.5 | 1 | 906,988.5 | 1 | 906,988.5 | 1 |
| | 81 | 1,207,648.4 | 5 | 1,207,648.4 | 5 | 1,207,629.8 | 6 | 1,207,648.4 | 10 | 1,207,648.4 | 11 | 1,207,629.8 | 17 |
| | 91 | 1,208,810.6 | 1 | 1,208,810.6 | 1 | 1,208,810.6 | 1 | 1,208,810.6 | 2 | 1,208,810.6 | 2 | 1,208,810.6 | 2 |
| | 101 | 1,209,928.8 | 15 | 1,209,928.8 | 17 | 1,209,928.8 | 18 | 1,209,928.8 | 14 | 1,209,928.8 | 18 | 1,209,928.8 | 34 |
| | 111 | 1,211,037.5 | 4 | 1,211,037.5 | 4 | 1,211,037.5 | 5 | 1,211,037.5 | 16 | 1,211,037.5 | 36 | 1,211,033.5 | 39 |
| | 121 | 1,209,767.6 | 309 | 1,209,767.6 | 343 | 1,209,767.6 | 436 | 1,209,767.6 | 510 | 1,209,767.6 | 631 | 1,209,767.6 | 1543 |
| | 131 | 1,511,598.0 | 127 | 1,511,598.0 | 73 | 1,511,598.0 | 366 | 1,511,598.0 | 220 | 1,511,598.0 | 632 | 1,511,598.0 | 1291 |
| | 141 | 1,813,028.1 | 134 | 1,812,996.1 | 55 | 1,812,996.1 | 151 | 1,813,013.7 | 680 | 1,812,867.1 | 46 | 1,713,410.3 | 7 |
| | 151 | 1,714,059.1 | 1247 | 1,714,059.1 | 1420 | 1,714,059.1 | 1427 | 1,714,059.1 | 1376 | 1,713,948.1 | 1009 | – | – |
| a280-c12-w15-1500-2000 | 51 | 503,879.0 | 3 | 503,879.0 | 4 | 503,879.0 | 5 | 503,879.0 | 3 | 503,879.0 | 4 | 503,879.0 | 8 |
| | 61 | 604,803.4 | 3 | 604,803.4 | 4 | 604,803.4 | 4 | 604,803.4 | 4 | 604,803.4 | 6 | 604,803.4 | 9 |
| | 71 | 705,156.8 | 75 | 705,156.8 | 84 | 705,156.8 | 84 | 705,154.4 | 77 | 705,154.4 | 135 | 705,154.4 | 213 |
| | 81 | 806,269.1 | 51 | 806,269.1 | 78 | 806,249.2 | 51 | 806,269.1 | 52 | 806,269.1 | 146 | 806,249.2 | 119 |
| | 91 | 907,488.0 | 40 | 907,488.0 | 87 | 907,488.0 | 156 | 907,488.0 | 55 | 907,488.0 | 151 | 907,473.0 | 403 |
| | 101 | 907,917.9 | 350 | 907,917.9 | 394 | 907,917.9 | 580 | 907,917.9 | 469 | 907,917.9 | 559 | 907,857.7 | 591 |
| | 111 | 1,110,638.5 | 3201 | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-500-1000 | 51 | 604,181.6 | 0 | 604,181.6 | 0 | 604,181.6 | 1 | 604,181.6 | 0 | 604,181.6 | 0 | 604,181.6 | 1 |
| | 61 | 804,540.9 | 4 | 804,540.9 | 4 | 804,522.0 | 4 | 804,540.9 | 4 | 804,540.9 | 5 | 804,522.0 | 12 |
| | 71 | 905,464.9 | 3 | 905,464.9 | 3 | 905,464.9 | 4 | 905,464.9 | 3 | 905,464.9 | 5 | 905,464.9 | 5 |
| | 81 | 1,106,972.1 | 20 | 1,106,972.1 | 16 | 1,007,926.1 | 13 | 1,106,972.1 | 22 | 1,106,972.1 | 22 | 1,007,926.1 | 66 |
| | 91 | 1,208,019.7 | 17 | 1,208,019.7 | 23 | 1,208,004.8 | 18 | 1,208,019.7 | 20 | 1,208,019.7 | 40 | 1,207,915.2 | 19 |
| | 101 | 1,209,830.0 | 20 | 1,209,830.0 | 19 | 1,209,647.9 | 9 | 1,209,830.0 | 19 | 1,209,830.0 | 26 | 1,209,647.9 | 13 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | 1,510,529.5 | 146 | 1,510,529.5 | 216 | 1,510,484.7 | 507 | 1,510,529.5 | 215 | 1,510,529.5 | 262 | 1,510,484.7 | 987 |
| | 131 | 1,510,765.8 | 557 | 1,510,765.8 | 536 | 1,510,765.8 | 1074 | 1,510,765.8 | 867 | 1,510,765.8 | 851 | 1,510,765.8 | 2456 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-1000-1200 | 51 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 |
| | 61 | 704,413.3 | 1 | 704,413.3 | 1 | 704,413.3 | 1 | 704,413.3 | 1 | 704,413.3 | 1 | 704,413.3 | 1 |
| | 71 | 905,527.8 | 2 | 905,527.8 | 2 | 905,527.8 | 2 | 905,527.8 | 2 | 905,527.8 | 2 | 905,527.8 | 3 |
| | 81 | 1,006,936.5 | 1 | 1,006,936.5 | 1 | 1,006,936.5 | 1 | 1,006,936.5 | 1 | 1,006,936.5 | 1 | 1,006,936.5 | 2 |
| | 91 | 1,108,074.4 | 3 | 1,108,074.4 | 3 | 1,108,074.4 | 6 | 1,108,074.4 | 3 | 1,108,074.4 | 4 | 1,108,074.4 | 9 |
| | 101 | 1,209,490.8 | 17 | 1,209,490.8 | 17 | 1,209,470.7 | 34 | 1,209,490.8 | 12 | 1,209,490.8 | 15 | 1,209,470.7 | 50 |
| | 111 | 1,310,695.5 | 60 | 1,310,695.5 | 89 | 1,310,695.5 | 108 | 1,310,695.5 | 72 | 1,310,695.5 | 145 | 1,310,695.5 | 146 |
| | 121 | 1,411,538.6 | 20 | 1,411,538.6 | 20 | 1,411,538.6 | 71 | 1,411,538.6 | 27 | 1,411,538.6 | 110 | 1,411,522.7 | 381 |
| | 131 | 1,210,131.8 | 1558 | 1,210,120.7 | 1471 | 1,210,035.0 | 308 | 1,210,037.2 | 200 | 1,210,001.8 | 75 | 1,210,001.8 | 819 |
| | 141 | – | – | – | – | – | – | 1,412,112.0 | 1662 | – | – | – | – |
| | 151 | – | – | – | – | 1,512,346.6 | 1967 | – | – | 1,512,379.3 | 2534 | – | – |

*Continued on next page*

Table 11 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w30-1500-2000 | 51 | 503,665.4 | 18 | 503,665.4 | 21 | 503,665.4 | 34 | 503,665.4 | 18 | 503,644.1 | 17 | 503,644.1 | 44 |
| | 61 | 504,610.9 | 11 | 504,610.9 | 17 | 504,610.9 | 28 | 504,610.9 | 23 | 504,610.9 | 45 | 504,610.9 | 234 |
| | 71 | 705,050.1 | 14 | 705,050.1 | 15 | 705,050.1 | 21 | 705,050.1 | 19 | 705,050.1 | 25 | 705,050.1 | 78 |
| | 81 | 706,283.2 | 42 | 706,283.2 | 63 | 706,283.2 | 363 | 706,283.2 | 96 | 706,283.2 | 319 | 706,283.2 | 1749 |
| | 91 | 706,971.7 | 360 | 706,971.7 | 289 | 706,971.7 | 573 | 706,867.4 | 87 | 706,756.8 | 52 | 706,756.8 | 207 |
| | 101 | 809,327.8 | 638 | – | – | – | – | 809,327.8 | 802 | – | – | – | – |
| | 111 | 908,592.8 | 2826 | 908,592.8 | 3012 | – | – | 908,549.4 | 1796 | 908,549.4 | 2011 | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-500-1000 | 51 | 604,640.2 | 2 | 604,640.2 | 3 | 604,210.9 | 1 | 604,640.2 | 2 | 604,640.2 | 3 | 604,210.9 | 2 |
| | 61 | 704,213.6 | 56 | 704,213.6 | 89 | 704,213.6 | 69 | 704,213.6 | 64 | 704,213.6 | 87 | 704,213.6 | 164 |
| | 71 | 805,493.0 | 309 | 805,493.0 | 241 | 805,493.0 | 356 | 805,493.0 | 219 | 805,493.0 | 389 | 805,493.0 | 1237 |
| | 81 | 906,788.6 | 67 | 906,788.6 | 81 | 906,513.3 | 16 | 906,788.6 | 97 | 906,513.3 | 17 | 906,513.3 | 34 |
| | 91 | 1,007,114.2 | 148 | 1,007,114.2 | 774 | 1,007,114.2 | 1525 | 1,007,114.2 | 188 | 1,007,114.2 | 1421 | – | – |
| | 101 | 1,208,886.2 | 84 | 1,208,886.2 | 94 | 1,208,886.2 | 98 | 1,208,886.2 | 84 | 1,208,886.2 | 127 | 1,208,886.2 | 790 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1000-1200 | 51 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 3 |
| | 61 | 603,831.1 | 5 | 603,831.1 | 5 | 603,812.5 | 7 | 603,831.1 | 6 | 603,831.1 | 8 | 603,812.5 | 34 |
| | 71 | 705,126.3 | 7 | 705,126.3 | 8 | 705,126.3 | 14 | 705,126.3 | 9 | 705,126.3 | 12 | 705,126.3 | 72 |
| | 81 | 806,529.1 | 103 | 806,529.1 | 115 | 806,529.1 | 131 | 806,529.1 | 108 | 806,529.1 | 127 | 806,518.4 | 567 |
| | 91 | 1,007,244.0 | 44 | 1,007,244.0 | 47 | 1,007,244.0 | 61 | 1,007,244.0 | 62 | 1,007,244.0 | 66 | 1,007,244.0 | 120 |
| | 101 | 1,108,942.2 | 259 | 1,108,942.2 | 172 | 1,108,855.4 | 364 | 1,108,942.2 | 297 | 1,108,942.2 | 467 | 1,108,855.4 | 1890 |
| | 111 | 1,109,669.8 | 301 | 1,109,669.8 | 366 | 1,109,669.0 | 589 | 1,109,579.3 | 289 | 1,109,579.3 | 284 | 1,109,579.3 | 842 |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1500-2000 | 51 | 503,884.1 | 82 | 503,884.1 | 90 | 503,884.1 | 106 | 503,884.1 | 59 | 503,884.1 | 103 | 503,814.0 | 276 |
| | 61 | 604,244.9 | 24 | 604,244.9 | 38 | 604,196.8 | 17 | 604,244.9 | 34 | 604,244.9 | 63 | 604,196.8 | 128 |
| | 71 | 604,937.8 | 68 | 604,937.8 | 59 | 604,932.5 | 115 | 604,937.8 | 237 | 604,937.8 | 227 | 604,932.5 | 2524 |
| | 81 | 606,882.4 | 15 | 606,882.4 | 15 | 606,882.4 | 39 | 606,882.4 | 21 | 606,882.4 | 28 | 606,882.4 | 167 |
| | 91 | 807,039.8 | 476 | 807,039.8 | 427 | 806,951.0 | 204 | 806,951.0 | 217 | 806,951.0 | 189 | 806,951.0 | 739 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| brd14051-c12-w45-3000-4000 | 51 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 |
| | 61 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| | 71 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 |
| | 81 | 1,336,264.6 | 6 | 1,336,264.6 | 6 | 1,336,264.6 | 7 | 1,336,264.6 | 6 | 1,336,264.6 | 7 | 1,336,264.6 | 9 |
| | 91 | 1,852,594.6 | 1 | 1,852,594.6 | 1 | 1,852,594.6 | 1 | 1,852,594.6 | 1 | 1,852,594.6 | 1 | 1,852,594.6 | 1 |
| | 101 | 1,850,783.2 | 2 | 1,850,783.2 | 2 | 1,850,783.2 | 2 | 1,850,783.2 | 2 | 1,850,783.2 | 2 | 1,850,783.2 | 3 |
| | 111 | 2,052,559.3 | 2 | 2,052,559.3 | 2 | 2,052,559.3 | 2 | 2,052,559.3 | 2 | 2,052,559.3 | 2 | 2,052,559.3 | 2 |
| | 121 | 2,058,447.8 | 4 | 2,058,447.8 | 4 | 2,058,447.8 | 5 | 2,058,447.8 | 4 | 2,058,447.8 | 5 | 2,058,447.8 | 7 |
| | 131 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 2 |
| | 141 | 2,570,595.0 | 6 | 2,570,595.0 | 7 | 2,570,595.0 | 8 | 2,570,595.0 | 6 | 2,570,595.0 | 8 | 2,570,595.0 | 17 |
| | 151 | 2,669,111.2 | 164 | 2,669,111.2 | 163 | 2,669,106.1 | 402 | 2,669,111.2 | 174 | 2,669,106.1 | 592 | 2,669,106.1 | 1058 |

*Continued on next page*

Table 11 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| brd14051-c12-w60-3000-4000 | 51 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 |
| | 61 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 |
| | 71 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 |
| | 81 | 1,639,524.2 | 0 | 1,639,524.2 | 0 | 1,639,524.2 | 0 | 1,639,524.2 | 1 | 1,639,524.2 | 0 | 1,639,524.2 | 1 |
| | 91 | 1,641,517.5 | 1 | 1,641,517.5 | 1 | 1,641,517.5 | 1 | 1,641,517.5 | 1 | 1,641,517.5 | 1 | 1,641,517.5 | 1 |
| | 101 | 1,948,345.1 | 2 | 1,948,345.1 | 2 | 1,948,345.1 | 3 | 1,948,345.1 | 3 | 1,948,345.1 | 3 | 1,948,345.1 | 3 |
| | 111 | 1,645,846.5 | 4 | 1,645,846.5 | 4 | 1,645,846.5 | 5 | 1,645,846.5 | 4 | 1,645,846.5 | 5 | 1,645,846.5 | 8 |
| | 121 | 2,467,816.2 | 4 | 2,467,816.2 | 5 | 2,467,816.2 | 4 | 2,467,816.2 | 4 | 2,467,816.2 | 5 | 2,467,816.2 | 8 |
| | 131 | 2,471,043.4 | 1 | 2,471,043.4 | 1 | 2,471,043.4 | 1 | 2,471,043.4 | 1 | 2,471,043.4 | 1 | 2,471,043.4 | 1 |
| | 141 | 2,261,939.7 | 3 | 2,261,939.7 | 3 | 2,261,939.7 | 4 | 2,261,939.7 | 3 | 2,261,939.7 | 3 | 2,261,939.7 | 6 |
| | 151 | 2,470,487.6 | 10 | 2,470,487.6 | 11 | 2,470,487.6 | 15 | 2,470,487.6 | 11 | 2,470,487.6 | 16 | 2,470,487.6 | 55 |
| brd14051-c12-w75-3000-4000 | 51 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 |
| | 61 | 1,336,521.0 | 20 | 1,336,521.0 | 20 | 1,336,521.0 | 21 | 1,336,521.0 | 20 | 1,336,521.0 | 20 | 1,336,521.0 | 23 |
| | 71 | 1,435,166.0 | 22 | 1,435,166.0 | 23 | 1,435,166.0 | 24 | 1,435,166.0 | 22 | 1,435,166.0 | 24 | 1,435,166.0 | 33 |
| | 81 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 |
| | 91 | 1,540,611.3 | 19 | 1,540,611.3 | 19 | 1,540,611.3 | 21 | 1,540,611.3 | 24 | 1,540,611.3 | 19 | 1,540,611.3 | 33 |
| | 101 | 1,852,383.2 | 1 | 1,852,383.2 | 1 | 1,852,383.2 | 2 | 1,852,383.2 | 1 | 1,852,383.2 | 2 | 1,852,383.2 | 2 |
| | 111 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 3 |
| | 121 | 2,058,036.6 | 3 | 2,058,036.6 | 3 | 2,058,036.6 | 3 | 2,058,036.6 | 3 | 2,058,036.6 | 3 | 2,058,036.6 | 4 |
| | 131 | 2,269,831.9 | 7 | 2,269,831.9 | 7 | 2,269,831.9 | 7 | 2,269,831.9 | 7 | 2,269,831.9 | 7 | 2,269,831.9 | 9 |
| | 141 | 1,953,200.8 | 20 | 1,953,200.8 | 20 | 1,953,010.0 | 45 | 1,953,200.8 | 20 | 1,953,200.8 | 24 | 1,953,010.0 | 83 |
| | 151 | 2,155,716.2 | 50 | 2,155,716.2 | 21 | 2,155,716.2 | 54 | 2,155,716.2 | 71 | 2,155,716.2 | 54 | 2,155,716.2 | 153 |
| brd14051-c12-w90-3000-4000 | 51 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 |
| | 61 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 |
| | 71 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 |
| | 81 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 |
| | 91 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 2 | 1,842,307.4 | 3 |
| | 101 | 1,753,389.9 | 1 | 1,753,389.9 | 1 | 1,753,389.9 | 2 | 1,753,389.9 | 1 | 1,753,389.9 | 1 | 1,753,389.9 | 3 |
| | 111 | 1,543,281.4 | 5 | 1,543,281.4 | 5 | 1,543,257.5 | 6 | 1,543,281.4 | 5 | 1,543,281.4 | 7 | 1,543,257.5 | 14 |
| | 121 | 2,056,697.4 | 2 | 2,056,697.4 | 3 | 2,056,697.4 | 3 | 2,056,697.4 | 3 | 2,056,697.4 | 3 | 2,056,697.4 | 7 |
| | 131 | 2,166,943.4 | 3 | 2,166,943.4 | 3 | 2,166,943.4 | 4 | 2,166,943.4 | 4 | 2,166,943.4 | 4 | 2,166,943.4 | 7 |
| | 141 | 2,256,557.7 | 168 | 2,256,557.7 | 156 | 2,256,557.7 | 149 | 2,256,557.7 | 212 | 2,256,557.7 | 212 | 2,256,557.7 | 394 |
| | 151 | 2,057,997.9 | 2704 | 2,057,997.9 | 2760 | 2,057,887.2 | 2293 | – | – | – | – | – | – |
| brd14051-c12-w120-3000-4000 | 51 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 |
| | 61 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 1 |
| | 71 | 1,233,921.9 | 5 | 1,233,921.9 | 6 | 1,233,921.9 | 6 | 1,233,921.9 | 6 | 1,233,921.9 | 6 | 1,233,921.9 | 8 |
| | 81 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 2 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 2 |
| | 91 | 1,446,467.0 | 1 | 1,446,467.0 | 1 | 1,446,467.0 | 1 | 1,446,467.0 | 1 | 1,446,364.0 | 1 | 1,446,364.0 | 1 |
| | 101 | 1,849,555.6 | 2 | 1,849,555.6 | 2 | 1,849,555.6 | 2 | 1,849,555.6 | 2 | 1,849,555.6 | 2 | 1,849,555.6 | 4 |
| | 111 | 1,541,173.9 | 15 | 1,541,173.9 | 17 | 1,541,173.9 | 19 | 1,541,173.9 | 17 | 1,541,173.9 | 17 | 1,541,173.9 | 31 |
| | 121 | 1,850,592.8 | 157 | 1,850,592.8 | 161 | 1,850,592.8 | 1765 | 1,850,592.8 | 199 | 1,850,592.8 | 2324 | – | – |
| | 131 | 1,859,363.2 | 2 | 1,859,363.2 | 2 | 1,858,820.3 | 5 | 1,859,363.2 | 2 | 1,859,363.2 | 2 | 1,858,820.3 | 9 |
| | 141 | 1,955,887.9 | 204 | 1,955,887.9 | 455 | 1,955,887.9 | 430 | 1,955,887.9 | 523 | 1,955,887.9 | 875 | 1,955,887.9 | 2629 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| d18512-c12-w45-3000-4000 | 51 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 |
| | 61 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 |
| | 71 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 |
| | 81 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 1 | 1,335,804.8 | 1 |
| | 91 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 101 | 1,748,395.1 | 1 | 1,748,395.1 | 1 | 1,747,715.0 | 2 | 1,748,395.1 | 1 | 1,748,395.1 | 1 | 1,747,715.0 | 3 |
| | 111 | 2,058,835.5 | 4 | 2,058,835.5 | 4 | 2,057,771.4 | 2 | 2,058,835.5 | 4 | 2,058,023.3 | 3 | 2,057,771.4 | 3 |
| | 121 | 2,468,755.6 | 1 | 2,468,755.6 | 1 | 2,468,755.6 | 1 | 2,468,755.6 | 1 | 2,468,755.6 | 1 | 2,468,755.6 | 1 |
| | 131 | 2,265,058.6 | 11 | 2,265,058.6 | 12 | 2,265,058.6 | 13 | 2,265,058.6 | 12 | 2,265,058.6 | 13 | 2,265,058.6 | 29 |
| | 141 | 2,568,472.8 | 6 | 2,568,472.8 | 10 | 2,568,472.8 | 12 | 2,567,946.3 | 3 | 2,567,946.3 | 4 | 2,567,946.3 | 7 |
| | 151 | 2,367,157.6 | 2 | 2,367,157.6 | 2 | 2,367,001.0 | 2 | 2,367,157.6 | 2 | 2,367,157.6 | 2 | 2,367,001.0 | 2 |

*Continued on next page*

Table 11 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| d18512-c12-w60-3000-4000 | 51 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 |
| | 61 | 1,129,787.1 | 2 | 1,129,787.1 | 2 | 1,129,787.1 | 2 | 1,129,787.1 | 2 | 1,129,787.1 | 2 | 1,129,787.1 | 3 |
| | 71 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 1 |
| | 81 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 |
| | 91 | 1,746,583.0 | 1 | 1,746,583.0 | 1 | 1,746,488.7 | 1 | 1,746,583.0 | 1 | 1,746,583.0 | 1 | 1,746,488.7 | 1 |
| | 101 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 3 |
| | 111 | 2,161,004.7 | 6 | 2,161,004.7 | 6 | 2,161,004.7 | 9 | 2,161,004.7 | 7 | 2,161,004.7 | 10 | 2,161,004.7 | 14 |
| | 121 | 2,369,593.0 | 2 | 2,369,593.0 | 3 | 2,369,593.0 | 3 | 2,369,593.0 | 3 | 2,369,593.0 | 5 | 2,369,593.0 | 12 |
| | 131 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 7 |
| | 141 | – | – | – | – | – | – | – | – | 2,061,866.9 | 13 | 2,061,866.9 | 79 |
| | 151 | 2,472,693.4 | 4 | 2,472,693.4 | 4 | 2,472,693.4 | 4 | 2,472,693.4 | 4 | 2,472,693.4 | 5 | 2,472,693.4 | 8 |
| d18512-c12-w75-3000-4000 | 51 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 |
| | 61 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 |
| | 71 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 |
| | 81 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 1 |
| | 91 | 1,537,205.4 | 1 | 1,537,205.4 | 2 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 2 |
| | 101 | 1,643,545.7 | 394 | 1,643,545.7 | 399 | 1,643,545.7 | 418 | 1,643,545.7 | 386 | 1,643,545.7 | 474 | 1,643,545.7 | 858 |
| | 111 | 1,854,713.5 | 7 | 1,854,713.5 | 8 | 1,854,713.5 | 7 | 1,854,713.5 | 8 | 1,854,713.5 | 9 | 1,854,713.5 | 12 |
| | 121 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 2 |
| | 131 | 2,157,397.0 | 2 | 2,157,397.0 | 2 | 2,157,397.0 | 2 | 2,157,397.0 | 2 | 2,157,397.0 | 3 | 2,157,397.0 | 3 |
| | 141 | 2,258,494.8 | 4 | 2,258,494.8 | 4 | 2,258,148.8 | 5 | 2,258,494.8 | 5 | 2,258,494.8 | 5 | 2,258,148.8 | 9 |
| | 151 | 2,263,970.3 | 204 | 2,263,970.3 | 211 | 2,163,261.5 | 26 | 2,263,970.3 | 219 | 2,169,418.7 | 146 | 2,163,261.5 | 61 |
| d18512-c12-w90-3000-4000 | 51 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 |
| | 61 | 1,230,401.8 | 139 | 1,230,401.8 | 141 | 1,230,401.8 | 162 | 1,230,401.8 | 91 | 1,230,401.8 | 94 | 1,230,401.8 | 457 |
| | 71 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 |
| | 81 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 |
| | 91 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 |
| | 101 | 1,643,649.2 | 1 | 1,643,649.2 | 1 | 1,643,649.2 | 2 | 1,643,649.2 | 1 | 1,643,649.2 | 2 | 1,643,649.2 | 4 |
| | 111 | 2,051,493.5 | 3 | 2,051,493.5 | 3 | 2,051,493.5 | 3 | 2,051,493.5 | 3 | 2,051,493.5 | 3 | 2,051,493.5 | 4 |
| | 121 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 4 | 2,059,222.6 | 5 |
| | 131 | 2,056,122.0 | 22 | 2,056,122.0 | 25 | 2,056,122.0 | 29 | 2,056,122.0 | 23 | 2,056,122.0 | 32 | 2,056,122.0 | 80 |
| | 141 | 1,956,239.3 | 12 | 1,956,239.3 | 11 | 1,956,239.3 | 14 | 1,956,239.3 | 17 | 1,956,239.3 | 18 | 1,956,239.3 | 36 |
| | 151 | 2,468,171.4 | 25 | 2,468,017.3 | 30 | 2,468,017.3 | 45 | 2,468,171.4 | 35 | 2,468,017.3 | 36 | 2,468,017.3 | 279 |
| d18512-c12-w120-3000-4000 | 51 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 |
| | 61 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 |
| | 71 | 1,331,511.4 | 2 | 1,331,511.4 | 2 | 1,331,511.4 | 2 | 1,331,511.4 | 2 | 1,331,511.4 | 2 | 1,331,511.4 | 4 |
| | 81 | 1,333,708.2 | 2 | 1,333,708.2 | 2 | 1,333,708.2 | 2 | 1,333,708.2 | 2 | 1,333,708.2 | 2 | 1,333,708.2 | 3 |
| | 91 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 3 |
| | 101 | 1,646,093.2 | 704 | 1,646,093.2 | 749 | 1,646,093.2 | 1210 | 1,646,093.2 | 875 | 1,646,093.2 | 778 | – | – |
| | 111 | 1,750,119.2 | 2 | 1,750,119.2 | 2 | 1,750,119.2 | 2 | 1,750,119.2 | 2 | 1,750,119.2 | 2 | 1,750,119.2 | 3 |
| | 121 | 2,160,462.5 | 5 | 2,160,462.5 | 5 | 2,160,462.5 | 6 | 2,160,462.5 | 5 | 2,160,462.5 | 5 | 2,160,462.5 | 7 |
| | 131 | – | – | – | – | 1,751,335.0 | 3039 | – | – | 1,751,335.0 | 2787 | – | – |
| | 141 | 1,956,216.9 | 27 | 1,956,216.9 | 35 | 1,956,216.9 | 23 | 1,956,216.9 | 20 | 1,956,216.9 | 76 | 1,956,216.9 | 170 |
| | 151 | 2,160,564.2 | 83 | 2,160,564.2 | 124 | 2,160,564.2 | 122 | 2,160,564.2 | 172 | 2,160,564.2 | 106 | 2,059,907.6 | 32 |
| fn14461-c12-w45-3000-4000 | 51 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 |
| | 61 | 1,219,256.3 | 2 | 1,219,256.3 | 2 | 1,218,986.5 | 1 | 1,219,256.3 | 2 | 1,219,256.3 | 2 | 1,218,986.5 | 1 |
| | 71 | 917,899.2 | 4 | 917,899.2 | 4 | 917,899.2 | 5 | 917,899.2 | 5 | 917,899.2 | 4 | 917,899.2 | 6 |
| | 81 | 921,776.0 | 1 | 921,776.0 | 2 | 921,776.0 | 1 | 921,776.0 | 2 | 921,776.0 | 1 | 921,776.0 | 2 |
| | 91 | 1,121,826.0 | 40 | 1,121,826.0 | 47 | 1,121,819.3 | 203 | 1,121,826.0 | 194 | 1,121,826.0 | 225 | 1,121,819.3 | 536 |
| | 101 | 1,328,280.3 | 20 | 1,328,280.3 | 22 | 1,327,908.6 | 7 | 1,328,280.3 | 28 | 1,328,280.3 | 30 | 1,327,908.6 | 12 |
| | 111 | 1,330,049.8 | 3 | 1,330,049.8 | 4 | 1,330,049.8 | 4 | 1,330,049.8 | 4 | 1,330,049.8 | 4 | 1,330,049.8 | 6 |
| | 121 | 1,532,096.5 | 26 | 1,532,096.5 | 28 | 1,531,713.0 | 75 | 1,532,096.5 | 49 | 1,532,096.5 | 42 | 1,531,713.0 | 149 |
| | 131 | 1,639,494.4 | 33 | 1,639,494.4 | 40 | 1,639,494.4 | 57 | 1,639,494.4 | 49 | 1,639,494.4 | 54 | 1,639,494.4 | 95 |
| | 141 | 1,741,315.8 | 58 | 1,741,315.8 | 70 | 1,741,171.7 | 94 | 1,741,315.8 | 76 | 1,741,315.8 | 61 | 1,741,168.7 | 281 |
| | 151 | 1,739,201.1 | 100 | 1,739,028.9 | 253 | 1,739,028.9 | 223 | 1,739,201.1 | 83 | 1,739,028.9 | 152 | 1,739,028.9 | 549 |

*Continued on next page*

Table 11 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| fnl4461-c12-w60-3000-4000 | 51 | 715,685.0 | 1 | 715,685.0 | 1 | 715,685.0 | 1 | 715,685.0 | 1 | 715,685.0 | 1 | 715,685.0 | 1 |
| | 61 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 |
| | 71 | 917,406.0 | 2 | 917,406.0 | 2 | 917,406.0 | 3 | 917,406.0 | 2 | 917,406.0 | 3 | 917,406.0 | 5 |
| | 81 | 923,301.5 | 4 | 923,301.5 | 4 | 923,301.5 | 4 | 923,301.5 | 4 | 923,301.5 | 5 | 923,301.5 | 6 |
| | 91 | 1,021,784.4 | 3 | 1,021,784.4 | 3 | 1,021,784.4 | 3 | 1,021,784.4 | 3 | 1,021,784.4 | 4 | 1,021,784.4 | 4 |
| | 101 | 1,126,890.3 | 10 | 1,126,890.3 | 18 | 1,126,890.3 | 27 | 1,126,890.3 | 20 | 1,126,890.3 | 41 | 1,126,890.3 | 64 |
| | 111 | 1,329,806.8 | 11 | 1,329,806.8 | 14 | 1,329,806.8 | 12 | 1,329,806.8 | 12 | 1,329,806.8 | 15 | 1,329,806.8 | 31 |
| | 121 | 1,330,426.7 | 66 | 1,330,426.7 | 70 | 1,330,426.7 | 98 | 1,330,242.0 | 27 | 1,330,242.0 | 31 | 1,330,242.0 | 78 |
| | 131 | 1,539,436.1 | 76 | 1,539,436.1 | 161 | 1,539,081.7 | 203 | 1,539,436.1 | 186 | 1,539,436.1 | 129 | 1,539,081.7 | 376 |
| | 141 | 1,537,210.0 | 532 | 1,537,210.0 | 651 | 1,537,210.0 | 916 | 1,537,210.0 | 556 | 1,537,210.0 | 796 | 1,537,210.0 | 2372 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w75-3000-4000 | 51 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 |
| | 61 | 816,115.2 | 1 | 816,115.2 | 1 | 816,115.2 | 1 | 816,115.2 | 1 | 816,115.2 | 1 | 816,115.2 | 1 |
| | 71 | 819,840.5 | 4 | 819,840.5 | 6 | 819,840.5 | 6 | 819,747.4 | 7 | 819,747.4 | 6 | 819,747.4 | 14 |
| | 81 | 920,269.4 | 2 | 920,269.4 | 2 | 920,269.4 | 3 | 920,269.4 | 3 | 920,269.4 | 3 | 920,269.4 | 5 |
| | 91 | 1,023,143.3 | 4 | 1,023,143.3 | 4 | 1,023,143.3 | 4 | 1,023,143.3 | 4 | 1,023,143.3 | 5 | 1,023,143.3 | 8 |
| | 101 | 1,226,877.0 | 44 | 1,226,877.0 | 48 | 1,226,877.0 | 71 | 1,226,877.0 | 93 | 1,226,877.0 | 96 | 1,226,833.5 | 186 |
| | 111 | 1,130,891.6 | 73 | 1,130,891.6 | 77 | 1,130,680.1 | 97 | 1,130,891.6 | 67 | 1,130,891.6 | 80 | 1,130,680.1 | 168 |
| | 121 | 1,332,884.0 | 151 | 1,332,884.0 | 157 | 1,332,884.0 | 256 | 1,332,884.0 | 138 | 1,332,884.0 | 151 | 1,332,884.0 | 482 |
| | 131 | 1,435,047.3 | 174 | 1,435,047.3 | 227 | 1,435,047.3 | 227 | 1,435,047.3 | 197 | 1,435,047.3 | 272 | 1,435,047.3 | 1015 |
| | 141 | 1,637,355.8 | 336 | 1,637,355.8 | 420 | 1,539,465.1 | 66 | 1,637,355.8 | 434 | 1,637,355.8 | 376 | 1,539,465.1 | 189 |
| | 151 | 1,539,658.8 | 1928 | 1,539,658.8 | 2010 | 1,539,587.6 | 1667 | 1,539,587.6 | 2010 | 1,539,587.6 | 1805 | – | – |
| fnl4461-c12-w90-3000-4000 | 51 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 1 |
| | 61 | 817,581.5 | 86 | 817,581.5 | 93 | 817,013.2 | 67 | 817,581.5 | 54 | 817,581.5 | 168 | 817,013.2 | 62 |
| | 71 | 815,054.6 | 4 | 815,054.6 | 4 | 815,054.6 | 5 | 815,054.6 | 5 | 815,054.6 | 5 | 815,054.6 | 9 |
| | 81 | 921,919.7 | 7 | 921,919.7 | 7 | 921,682.1 | 4 | 921,919.7 | 9 | 921,919.7 | 10 | 921,682.1 | 6 |
| | 91 | 1,023,278.7 | 39 | 1,023,278.7 | 32 | 1,023,278.7 | 61 | 1,023,278.7 | 33 | 1,023,278.7 | 52 | 1,023,278.7 | 100 |
| | 101 | 1,225,798.5 | 323 | 1,225,798.5 | 453 | 1,225,641.9 | 293 | 1,225,798.5 | 434 | 1,225,641.9 | 284 | – | – |
| | 111 | 1,227,743.4 | 91 | 1,227,743.4 | 92 | 1,227,743.4 | 261 | 1,227,743.4 | 150 | 1,227,743.4 | 186 | 1,227,738.5 | 1601 |
| | 121 | 1,431,465.5 | 965 | 1,431,465.5 | 1496 | 1,431,465.5 | 1474 | 1,334,355.3 | 536 | 1,334,355.3 | 725 | 1,334,355.3 | 1316 |
| | 131 | 1,231,918.9 | 1815 | 1,231,918.9 | 1972 | – | – | 1,231,918.9 | 3300 | – | – | – | – |
| | 141 | 1,340,612.3 | 207 | 1,340,612.3 | 271 | 1,340,612.3 | 725 | 1,340,612.3 | 348 | 1,340,612.3 | 1184 | 1,340,612.3 | 2671 |
| | 151 | 1,538,548.4 | 156 | 1,538,548.4 | 223 | 1,538,548.4 | 632 | 1,538,548.4 | 350 | 1,538,548.4 | 445 | – | – |
| fnl4461-c12-w120-3000-4000 | 51 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 5 |
| | 61 | 714,165.2 | 11 | 714,165.2 | 11 | 714,165.2 | 17 | 714,165.2 | 14 | 714,165.2 | 19 | 714,165.2 | 73 |
| | 71 | 715,745.9 | 22 | 715,745.9 | 22 | 715,704.1 | 26 | 715,745.9 | 48 | 715,745.9 | 44 | 715,592.5 | 56 |
| | 81 | 819,609.3 | 76 | 819,609.3 | 166 | 819,609.3 | 170 | 819,609.3 | 138 | 819,609.3 | 329 | 819,609.3 | 866 |
| | 91 | 819,942.6 | 450 | 819,942.6 | 531 | 819,942.6 | 805 | 819,942.6 | 468 | 819,942.6 | 1176 | – | – |
| | 101 | 1,028,908.7 | 314 | 1,028,908.7 | 414 | 1,028,301.2 | 985 | 1,028,908.7 | 987 | 1,028,908.7 | 854 | 1,028,301.2 | 3132 |
| | 111 | 1,026,314.3 | 1514 | 1,026,314.3 | 1826 | 1,026,314.3 | 3467 | – | – | – | – | – | – |
| | 121 | 1,228,194.8 | 714 | 1,228,194.8 | 2324 | – | – | 1,228,127.4 | 947 | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | 1,337,205.5 | 2080 | – | – | – | – | – | – |
| nrw1379-c12-w45-3000-4000 | 51 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 |
| | 61 | 919,538.1 | 1 | 919,538.1 | 1 | 919,538.1 | 1 | 919,538.1 | 1 | 919,538.1 | 1 | 919,538.1 | 1 |
| | 71 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 |
| | 81 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 2 |
| | 91 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 |
| | 101 | 1,329,752.6 | 9 | 1,329,752.6 | 9 | 1,329,752.6 | 10 | 1,329,752.6 | 9 | 1,329,752.6 | 10 | 1,329,752.6 | 31 |
| | 111 | 1,534,358.5 | 20 | 1,534,358.5 | 32 | 1,534,358.5 | 25 | 1,534,358.5 | 26 | 1,534,358.5 | 43 | 1,534,358.5 | 41 |
| | 121 | 1,638,779.9 | 69 | 1,638,779.9 | 70 | 1,638,779.9 | 70 | 1,638,779.9 | 85 | 1,638,779.9 | 83 | 1,638,779.9 | 158 |
| | 131 | 1,841,732.9 | 50 | 1,841,732.9 | 54 | 1,841,732.9 | 32 | 1,841,732.9 | 39 | 1,841,732.9 | 43 | 1,841,732.9 | 87 |
| | 141 | 2,046,383.0 | 68 | 2,046,383.0 | 69 | 2,046,383.0 | 38 | 2,046,383.0 | 57 | 2,046,383.0 | 60 | 2,046,383.0 | 84 |
| | 151 | 2,149,698.6 | 15 | 2,149,698.6 | 9 | 2,149,698.6 | 7 | 2,149,698.6 | 16 | 2,149,698.6 | 10 | 2,149,698.6 | 17 |

*Continued on next page*

Table 11 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| nrw1379-c12-w60-3000-4000 | 51 | 714,362.0 | 1 | 714,362.0 | 1 | 714,362.0 | 1 | 714,362.0 | 0 | 714,362.0 | 0 | 714,362.0 | 1 |
| | 61 | 818,786.0 | 1 | 818,786.0 | 1 | 818,786.0 | 1 | 818,786.0 | 1 | 818,786.0 | 1 | 818,786.0 | 2 |
| | 71 | 1,122,140.0 | 1 | 1,122,140.0 | 1 | 1,122,140.0 | 1 | 1,122,140.0 | 1 | 1,122,140.0 | 1 | 1,122,140.0 | 1 |
| | 81 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 |
| | 91 | 1,228,112.7 | 4 | 1,228,112.7 | 5 | 1,228,112.7 | 5 | 1,228,112.7 | 5 | 1,228,112.7 | 5 | 1,228,112.7 | 16 |
| | 101 | 1,331,946.8 | 2 | 1,331,946.8 | 2 | 1,331,946.8 | 2 | 1,331,946.8 | 2 | 1,331,946.8 | 2 | 1,331,946.8 | 3 |
| | 111 | 1,635,211.5 | 8 | 1,635,211.5 | 8 | 1,635,211.5 | 9 | 1,635,211.5 | 9 | 1,635,211.5 | 10 | 1,635,211.5 | 19 |
| | 121 | 1,539,727.4 | 34 | 1,539,727.4 | 34 | 1,539,641.9 | 15 | 1,539,641.9 | 21 | 1,539,641.9 | 22 | 1,539,641.9 | 148 |
| | 131 | 1,636,743.3 | 11 | 1,636,743.3 | 12 | 1,636,743.3 | 12 | 1,636,743.3 | 11 | 1,636,743.3 | 11 | 1,636,743.3 | 24 |
| | 141 | 1,948,011.5 | 13 | 1,948,011.5 | 22 | 1,947,072.4 | 22 | 1,948,011.5 | 13 | 1,948,011.5 | 28 | 1,947,072.4 | 147 |
| | 151 | 1,745,250.6 | 84 | 1,745,250.6 | 113 | 1,744,674.0 | 46 | 1,745,250.6 | 122 | 1,745,232.7 | 149 | 1,744,674.0 | 157 |
| nrw1379-c12-w75-3000-4000 | 51 | 919,078.2 | 1 | 919,078.2 | 1 | 919,078.2 | 1 | 919,078.2 | 1 | 919,078.2 | 1 | 919,078.2 | 1 |
| | 61 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 |
| | 71 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 2 |
| | 81 | 1,025,898.7 | 1 | 1,025,898.7 | 1 | 1,025,898.7 | 1 | 1,025,898.7 | 1 | 1,025,898.7 | 1 | 1,025,898.7 | 2 |
| | 91 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 5 |
| | 101 | 1,226,401.5 | 7 | 1,226,401.5 | 7 | 1,226,401.5 | 9 | 1,226,401.5 | 9 | 1,226,401.5 | 10 | 1,226,401.5 | 16 |
| | 111 | 1,435,718.4 | 4 | 1,435,718.4 | 4 | 1,435,718.4 | 6 | 1,435,718.4 | 4 | 1,435,718.4 | 4 | 1,435,718.4 | 12 |
| | 121 | 1,530,761.0 | 100 | 1,530,761.0 | 140 | 1,530,761.0 | 199 | 1,530,761.0 | 153 | 1,530,761.0 | 161 | 1,530,761.0 | 249 |
| | 131 | 1,541,589.0 | 4 | 1,541,589.0 | 4 | 1,541,589.0 | 5 | 1,541,589.0 | 4 | 1,541,589.0 | 5 | 1,541,589.0 | 8 |
| | 141 | 1,740,531.1 | 129 | 1,740,531.1 | 129 | 1,740,531.1 | 199 | 1,740,531.1 | 206 | 1,740,531.1 | 159 | 1,740,531.1 | 852 |
| | 151 | 1,743,031.4 | 7 | 1,743,031.4 | 7 | 1,743,031.4 | 8 | 1,743,031.4 | 7 | 1,743,031.4 | 8 | 1,743,031.4 | 12 |
| nrw1379-c12-w90-3000-4000 | 51 | 815,844.7 | 0 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 |
| | 61 | 1,222,464.7 | 1 | 1,222,464.7 | 1 | 1,222,464.7 | 1 | 1,222,464.7 | 1 | 1,222,464.7 | 1 | 1,222,464.7 | 1 |
| | 71 | 1,021,298.6 | 2 | 1,021,298.6 | 2 | 1,021,298.6 | 3 | 1,021,298.6 | 5 | 1,021,298.6 | 5 | 1,021,298.6 | 28 |
| | 81 | 1,023,959.7 | 5 | 1,023,959.7 | 6 | 1,023,959.7 | 8 | 1,023,959.7 | 4 | 1,023,959.7 | 7 | 1,023,959.7 | 27 |
| | 91 | 1,323,626.8 | 12 | 1,323,626.8 | 12 | 1,323,624.7 | 16 | 1,323,626.8 | 11 | 1,323,626.8 | 14 | 1,323,419.5 | 22 |
| | 101 | 1,427,959.4 | 7 | 1,427,959.4 | 9 | 1,427,959.4 | 9 | 1,427,959.4 | 8 | 1,427,959.4 | 12 | 1,427,959.4 | 19 |
| | 111 | 1,230,349.7 | 4 | 1,230,349.7 | 5 | 1,230,349.7 | 5 | 1,230,349.7 | 6 | 1,230,349.7 | 6 | 1,230,349.7 | 8 |
| | 121 | 1,334,097.5 | 7 | 1,334,043.7 | 7 | 1,334,022.3 | 8 | 1,334,097.5 | 9 | 1,334,043.7 | 9 | 1,334,022.3 | 19 |
| | 131 | 1,334,845.5 | 103 | 1,334,845.5 | 184 | 1,334,845.5 | 252 | 1,334,845.5 | 208 | 1,334,845.5 | 526 | 1,334,845.5 | 2565 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,639,143.0 | 160 | 1,639,143.0 | 173 | 1,638,931.5 | 247 | 1,638,931.5 | 201 | 1,638,931.5 | 277 | 1,638,931.5 | 581 |
| nrw1379-c12-w120-3000-4000 | 51 | 716,006.6 | 2 | 716,006.6 | 2 | 716,006.6 | 1 | 716,006.6 | 2 | 716,006.6 | 2 | 716,006.6 | 6 |
| | 61 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 |
| | 71 | 1,023,001.3 | 2 | 1,023,001.3 | 3 | 1,023,001.3 | 4 | 1,023,001.3 | 3 | 1,023,001.3 | 3 | 1,023,001.3 | 6 |
| | 81 | 1,024,248.7 | 5 | 1,024,248.7 | 6 | 1,024,248.7 | 7 | 1,024,248.7 | 7 | 1,024,248.7 | 8 | 1,024,248.7 | 14 |
| | 91 | 1,024,702.1 | 12 | 1,024,702.1 | 11 | 1,024,702.1 | 14 | 1,024,702.1 | 12 | 1,024,702.1 | 14 | 1,024,702.1 | 29 |
| | 101 | 1,230,640.6 | 13 | 1,230,640.6 | 21 | 1,230,640.6 | 34 | 1,230,640.6 | 20 | 1,230,640.6 | 26 | 1,230,640.6 | 54 |
| | 111 | 1,233,358.2 | 706 | 1,233,358.2 | 529 | 1,233,358.2 | 534 | 1,233,358.2 | 442 | 1,233,358.2 | 602 | 1,233,358.2 | 1261 |
| | 121 | 1,333,922.3 | 1818 | 1,333,922.3 | 1353 | – | – | 1,333,922.3 | 1887 | 1,333,018.0 | 2441 | – | – |
| | 131 | – | – | – | – | 1,436,919.9 | 1469 | – | – | – | – | – | – |
| | 141 | 1,639,703.1 | 24 | 1,639,703.1 | 19 | 1,639,703.1 | 47 | 1,639,702.9 | 27 | 1,639,702.9 | 78 | 1,639,702.9 | 241 |
| | 151 | – | – | – | – | – | – | – | – | – | – | 1,538,578.5 | 636 |
| Solved | | | 280 | | 278 | | 278 | | 278 | | 277 | | 266 |
| ∅ Time | | | 120.8 | | 123.7 | | 150.3 | | 111.8 | | 135.7 | | 199.1 |

**Table 12: Detailed computational results $\delta = 5$ and with three stacks**

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w15-500-1000 | 51 | 704,424.6 | 1 | 704,424.6 | 1 | 704,424.6 | 1 | 704,424.6 | 1 | 704,424.6 | 2 | 704,424.6 | 2 |
| | 61 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 |
| | 71 | 905,856.9 | 4 | 905,856.9 | 4 | 905,856.9 | 4 | 905,856.9 | 4 | 905,856.9 | 4 | 905,856.9 | 8 |
| | 81 | 1,307,742.8 | 3 | 1,307,742.8 | 4 | 1,307,742.8 | 4 | 1,307,742.8 | 4 | 1,307,742.8 | 4 | 1,307,742.8 | 7 |
| | 91 | 1,308,213.1 | 52 | 1,308,213.1 | 55 | 1,308,213.1 | 53 | 1,308,213.1 | 54 | 1,308,213.1 | 59 | 1,308,213.1 | 154 |
| | 101 | 1,410,506.3 | 1 | 1,410,506.3 | 1 | 1,410,506.3 | 1 | 1,410,506.3 | 1 | 1,410,506.3 | 1 | 1,410,506.3 | 2 |
| | 111 | 1,712,047.7 | 1 | 1,712,047.7 | 1 | 1,712,047.7 | 3 | 1,712,047.7 | 1 | 1,712,047.7 | 2 | 1,712,047.7 | 8 |
| | 121 | 1,511,516.7 | 25 | 1,511,516.7 | 27 | 1,511,516.7 | 25 | 1,511,516.7 | 24 | 1,511,516.7 | 34 | 1,511,516.7 | 96 |
| | 131 | 1,711,759.1 | 152 | 1,711,759.1 | 158 | 1,711,759.1 | 133 | 1,711,759.1 | 142 | 1,711,759.1 | 154 | 1,612,149.7 | 44 |
| | 141 | 1,912,996.5 | 12 | 1,912,996.5 | 13 | 1,912,996.5 | 14 | 1,912,996.5 | 13 | 1,912,996.5 | 15 | 1,912,996.5 | 29 |
| | 151 | 1,915,033.3 | 64 | 1,915,033.3 | 55 | 1,915,033.3 | 65 | 1,915,033.3 | 68 | 1,915,033.3 | 68 | 1,915,033.3 | 89 |
| a280-c12-w15-1000-1200 | 51 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 |
| | 61 | 804,876.2 | 1 | 804,876.2 | 1 | 804,876.2 | 1 | 804,876.2 | 0 | 804,876.2 | 0 | 804,876.2 | 1 |
| | 71 | 906,371.8 | 1 | 906,371.8 | 2 | 906,371.8 | 3 | 906,371.8 | 3 | 906,371.8 | 1 | 906,371.8 | 2 |
| | 81 | 1,207,356.1 | 2 | 1,207,356.1 | 2 | 1,207,356.1 | 2 | 1,207,356.1 | 2 | 1,207,356.1 | 2 | 1,207,356.1 | 3 |
| | 91 | 1,208,755.0 | 4 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 10 |
| | 101 | 1,109,508.7 | 3 | 1,109,508.7 | 4 | 1,109,508.7 | 4 | 1,109,508.7 | 4 | 1,109,508.7 | 4 | 1,109,508.7 | 7 |
| | 111 | 1,210,448.9 | 72 | 1,210,448.9 | 76 | 1,210,448.9 | 77 | 1,210,448.9 | 75 | 1,210,448.9 | 94 | 1,210,448.9 | 174 |
| | 121 | 1,109,720.5 | 140 | 1,109,720.5 | 151 | 1,109,720.5 | 153 | 1,109,720.5 | 206 | 1,109,720.5 | 144 | 1,109,720.5 | 394 |
| | 131 | 1,411,925.7 | 145 | 1,411,925.7 | 154 | 1,411,925.7 | 726 | 1,411,925.7 | 215 | 1,411,925.7 | 573 | 1,411,925.7 | 2943 |
| | 141 | 1,712,926.9 | 59 | 1,712,926.9 | 61 | 1,712,926.9 | 137 | 1,712,926.9 | 119 | 1,712,926.9 | 157 | 1,712,926.9 | 270 |
| | 151 | – | – | – | – | – | – | – | – | – | – | 1,614,080.7 | 2369 |
| a280-c12-w15-1500-2000 | 51 | 503,723.8 | 1 | 503,723.8 | 1 | 503,723.8 | 1 | 503,723.8 | 1 | 503,723.8 | 1 | 503,723.8 | 2 |
| | 61 | 604,679.4 | 3 | 604,679.4 | 3 | 604,679.4 | 3 | 604,679.4 | 3 | 604,679.4 | 3 | 604,679.4 | 5 |
| | 71 | 705,185.5 | 62 | 705,185.5 | 64 | 705,185.5 | 71 | 705,185.5 | 53 | 705,185.5 | 41 | 705,178.5 | 157 |
| | 81 | 707,185.0 | 7 | 707,185.0 | 7 | 707,185.0 | 8 | 707,185.0 | 10 | 707,185.0 | 42 | 707,185.0 | 74 |
| | 91 | 807,869.2 | 100 | 807,869.2 | 108 | 807,869.2 | 136 | 807,869.2 | 126 | 807,869.2 | 153 | 807,869.2 | 375 |
| | 101 | 907,953.4 | 621 | 907,953.4 | 656 | 907,953.4 | 731 | 907,953.4 | 736 | 907,953.4 | 883 | 907,953.4 | 2086 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | 1,011,810.3 | 2245 |
| | 131 | 1,110,354.4 | 1147 | 1,110,354.4 | 1222 | 1,110,354.4 | 1309 | 1,110,354.4 | 1133 | 1,110,354.4 | 1570 | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-500-1000 | 51 | 604,267.6 | 1 | 604,267.6 | 1 | 604,267.6 | 2 | 604,267.6 | 1 | 604,267.6 | 1 | 604,267.6 | 2 |
| | 61 | 705,243.8 | 13 | 705,243.8 | 12 | 705,243.8 | 23 | 705,243.8 | 11 | 705,243.8 | 14 | 705,243.8 | 130 |
| | 71 | 806,188.1 | 4 | 806,188.1 | 4 | 806,168.4 | 5 | 806,188.1 | 4 | 806,188.1 | 4 | 806,168.4 | 14 |
| | 81 | 1,007,693.1 | 37 | 1,007,693.1 | 41 | 1,007,693.1 | 81 | 1,007,693.1 | 39 | 1,007,693.1 | 48 | 1,007,693.1 | 983 |
| | 91 | 1,207,860.4 | 10 | 1,207,860.4 | 13 | 1,207,860.4 | 17 | 1,207,860.4 | 15 | 1,207,860.4 | 16 | 1,108,446.3 | 7 |
| | 101 | 1,209,070.0 | 37 | 1,209,070.0 | 38 | 1,209,070.0 | 38 | 1,209,070.0 | 40 | 1,209,070.0 | 46 | 1,209,070.0 | 65 |
| | 111 | 1,309,885.7 | 2095 | 1,309,885.7 | 1528 | 1,309,885.7 | 3120 | 1,309,885.7 | 2394 | 1,309,885.7 | 2329 | – | – |
| | 121 | 1,410,829.3 | 2142 | 1,410,829.3 | 2209 | 1,410,829.3 | 3308 | 1,410,829.3 | 2525 | 1,410,829.3 | 2674 | – | – |
| | 131 | 1,411,009.4 | 3255 | – | – | – | – | – | – | – | – | – | – |
| | 141 | 1,513,394.0 | 983 | 1,513,394.0 | 1002 | 1,513,394.0 | 2871 | 1,513,394.0 | 1156 | 1,513,394.0 | 1099 | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-1000-1200 | 51 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 |
| | 61 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 |
| | 71 | 805,746.7 | 15 | 805,746.7 | 16 | 805,746.7 | 20 | 805,746.7 | 10 | 805,746.7 | 13 | 805,746.7 | 43 |
| | 81 | 1,006,722.9 | 2 | 1,006,722.9 | 2 | 1,006,722.9 | 2 | 1,006,722.9 | 2 | 1,006,722.9 | 2 | 1,006,722.9 | 3 |
| | 91 | 1,107,900.5 | 29 | 1,107,900.5 | 30 | 1,107,900.5 | 37 | 1,107,900.5 | 33 | 1,107,900.5 | 39 | 1,107,900.5 | 100 |
| | 101 | 1,108,956.7 | 16 | 1,108,956.7 | 17 | 1,108,956.7 | 19 | 1,108,956.7 | 17 | 1,108,956.7 | 18 | 1,108,956.7 | 52 |
| | 111 | 1,210,511.0 | 33 | 1,210,511.0 | 33 | 1,210,511.0 | 41 | 1,210,511.0 | 34 | 1,210,511.0 | 35 | 1,210,511.0 | 32 |
| | 121 | 1,410,753.1 | 432 | 1,410,753.1 | 451 | 1,410,753.1 | 398 | 1,410,753.1 | 296 | 1,410,753.1 | 407 | – | – |
| | 131 | 1,209,901.1 | 2258 | 1,209,901.1 | 2323 | 1,209,901.1 | 3081 | 1,209,846.0 | 614 | 1,209,806.0 | 195 | 1,209,805.2 | 750 |
| | 141 | 1,312,220.1 | 2189 | 1,312,220.1 | 2224 | 1,311,890.3 | 210 | 1,312,220.1 | 2257 | 1,312,220.1 | 2410 | 1,311,890.3 | 708 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |

*Continued on next page*

Table 12 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w30-1500-2000 | 51 | 503,561.4 | 26 | 503,561.4 | 29 | 503,561.4 | 43 | 503,561.4 | 32 | 503,561.4 | 55 | 503,561.4 | 211 |
| | 61 | 504,529.7 | 4 | 504,529.7 | 4 | 504,529.7 | 12 | 504,529.7 | 5 | 504,529.7 | 10 | 504,529.7 | 303 |
| | 71 | 705,199.8 | 153 | 705,199.8 | 158 | 606,090.7 | 35 | 705,199.8 | 109 | 606,267.5 | 119 | 606,090.7 | 313 |
| | 81 | 706,276.7 | 262 | 706,276.7 | 281 | 706,276.7 | 425 | 706,276.7 | 235 | 706,276.7 | 394 | 706,276.7 | 3428 |
| | 91 | 706,839.8 | 983 | 706,839.8 | 1030 | 706,812.6 | 2068 | 706,839.8 | 1871 | 706,839.8 | 1724 | – | – |
| | 101 | 808,919.4 | 463 | 808,919.4 | 917 | – | – | 808,919.4 | 772 | – | – | – | – |
| | 111 | 809,026.8 | 2078 | 809,026.8 | 2124 | 808,634.6 | 41 | 809,026.8 | 2085 | 809,026.8 | 2248 | 808,634.6 | 154 |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-500-1000 | 51 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 5 |
| | 61 | 704,162.2 | 194 | 704,162.2 | 201 | 704,162.2 | 205 | 704,162.2 | 211 | 704,162.2 | 246 | 704,162.2 | 1030 |
| | 71 | 805,137.9 | 24 | 805,137.9 | 25 | 805,106.1 | 21 | 805,137.9 | 21 | 805,137.9 | 31 | 805,104.4 | 78 |
| | 81 | 906,422.5 | 82 | 906,422.5 | 110 | 906,398.3 | 68 | 906,422.5 | 125 | 906,398.3 | 75 | 906,398.3 | 215 |
| | 91 | 907,205.8 | 59 | 907,150.1 | 27 | 907,150.1 | 44 | 907,150.1 | 29 | 907,150.1 | 69 | 907,150.1 | 1396 |
| | 101 | 1,208,819.5 | 971 | 1,208,819.5 | 1007 | 1,208,715.6 | 364 | 1,208,819.5 | 976 | 1,208,819.5 | 1115 | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1000-1200 | 51 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 3 |
| | 61 | 504,157.9 | 2 | 504,157.9 | 2 | 504,151.2 | 3 | 504,157.9 | 2 | 504,157.9 | 2 | 504,150.0 | 5 |
| | 71 | 704,921.2 | 8 | 704,921.2 | 9 | 704,921.2 | 11 | 704,921.2 | 9 | 704,921.2 | 11 | 704,921.2 | 34 |
| | 81 | 806,518.9 | 144 | 806,518.9 | 146 | 806,518.9 | 179 | 806,518.9 | 131 | 806,518.9 | 143 | 806,518.9 | 492 |
| | 91 | 907,373.8 | 104 | 907,373.8 | 109 | 907,367.1 | 95 | 907,373.8 | 150 | 907,373.8 | 159 | 907,311.2 | 145 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1500-2000 | 51 | 503,493.1 | 2 | 503,493.1 | 2 | 503,493.1 | 2 | 503,493.1 | 2 | 503,493.1 | 2 | 503,493.1 | 16 |
| | 61 | 604,088.7 | 39 | 604,088.7 | 45 | 604,088.7 | 63 | 604,088.7 | 36 | 604,088.7 | 41 | 604,088.7 | 296 |
| | 71 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 81 | 606,558.4 | 119 | 606,558.4 | 130 | 606,558.4 | 186 | 606,558.4 | 151 | 606,558.4 | 180 | 606,558.4 | 639 |
| | 91 | 706,935.5 | 15 | 706,935.5 | 16 | 706,935.5 | 22 | 706,935.5 | 19 | 706,935.5 | 21 | 706,935.5 | 59 |
| | 101 | – | – | – | – | 709,576.3 | 924 | – | – | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| brd14051-c12-w45-3000-4000 | 51 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 |
| | 61 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| | 71 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 |
| | 81 | 1,336,264.6 | 11 | 1,336,264.6 | 11 | 1,336,264.6 | 12 | 1,336,264.6 | 11 | 1,336,264.6 | 12 | 1,336,264.6 | 16 |
| | 91 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 | 1,852,570.5 | 1 |
| | 101 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 |
| | 111 | 2,052,469.4 | 2 | 2,052,469.4 | 2 | 2,052,469.4 | 3 | 2,052,469.4 | 2 | 2,052,469.4 | 3 | 2,052,469.4 | 3 |
| | 121 | 2,057,345.9 | 135 | 2,057,345.9 | 137 | 2,057,345.9 | 327 | 2,057,345.9 | 146 | 2,057,345.9 | 153 | 2,057,345.9 | 854 |
| | 131 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 |
| | 141 | 2,468,906.2 | 2 | 2,468,906.2 | 2 | 2,468,906.2 | 2 | 2,468,906.2 | 2 | 2,468,906.2 | 2 | 2,468,906.2 | 8 |
| | 151 | 2,570,792.6 | 6 | 2,570,792.6 | 6 | 2,570,792.6 | 5 | 2,570,792.6 | 5 | 2,570,792.6 | 7 | 2,570,792.6 | 14 |

*Continued on next page*

Table 12 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| brd14051-c12-w60-3000-4000 | 51 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 |
| | 61 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 |
| | 71 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 |
| | 81 | 1,639,313.8 | 0 | 1,639,313.8 | 0 | 1,639,313.8 | 0 | 1,639,313.8 | 0 | 1,639,313.8 | 1 | 1,639,313.8 | 1 |
| | 91 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 3 |
| | 101 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 4 |
| | 111 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 6 |
| | 121 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 2 |
| | 131 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 |
| | 141 | 2,262,338.5 | 127 | 2,262,338.5 | 130 | 2,262,338.5 | 77 | 2,262,338.5 | 71 | 2,262,338.5 | 77 | 2,262,338.5 | 79 |
| | 151 | 2,469,678.6 | 119 | 2,469,678.6 | 129 | 2,469,678.6 | 251 | 2,469,678.6 | 137 | 2,469,678.6 | 183 | 2,469,678.6 | 1303 |
| brd14051-c12-w75-3000-4000 | 51 | 1,025,843.4 | 1 | 1,025,843.4 | 1 | 1,025,843.4 | 1 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 0 |
| | 61 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 |
| | 71 | 1,435,166.0 | 19 | 1,435,166.0 | 20 | 1,434,817.6 | 9 | 1,435,166.0 | 20 | 1,435,166.0 | 20 | 1,434,817.6 | 12 |
| | 81 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 |
| | 91 | 1,539,992.0 | 2928 | 1,539,992.0 | 2974 | 1,539,992.0 | 1674 | – | – | – | – | 1,539,992.0 | 1886 |
| | 101 | 1,852,282.5 | 80 | 1,852,282.5 | 80 | 1,852,282.5 | 110 | 1,852,282.5 | 81 | 1,852,282.5 | 84 | 1,852,282.5 | 138 |
| | 111 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 3 |
| | 121 | 1,955,869.7 | 2 | 1,955,869.7 | 2 | 1,955,869.7 | 2 | 1,955,869.7 | 2 | 1,955,869.7 | 2 | 1,955,869.7 | 2 |
| | 131 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 2 |
| | 141 | 1,850,770.8 | 4 | 1,850,770.8 | 4 | 1,850,487.9 | 4 | 1,850,770.8 | 4 | 1,850,770.8 | 5 | 1,850,487.9 | 6 |
| | 151 | 2,055,058.8 | 7 | 2,055,058.8 | 7 | 2,055,058.8 | 30 | 2,055,058.8 | 8 | 2,055,058.8 | 13 | 2,055,058.8 | 265 |
| brd14051-c12-w90-3000-4000 | 51 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 |
| | 61 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 |
| | 71 | 1,331,512.0 | 1 | 1,331,512.0 | 0 | 1,331,512.0 | 1 | 1,331,512.0 | 0 | 1,331,512.0 | 1 | 1,331,512.0 | 1 |
| | 81 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 |
| | 91 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 2 |
| | 101 | 1,753,074.5 | 1 | 1,753,074.5 | 1 | 1,753,074.5 | 1 | 1,753,074.5 | 1 | 1,753,074.5 | 1 | 1,753,074.5 | 2 |
| | 111 | 1,543,238.8 | 4 | 1,543,238.8 | 4 | 1,543,238.8 | 5 | 1,543,238.8 | 5 | 1,543,238.8 | 5 | 1,543,238.8 | 11 |
| | 121 | 2,057,713.6 | 42 | 2,057,713.6 | 44 | 2,057,692.2 | 46 | 2,057,713.6 | 47 | 2,057,713.6 | 53 | 2,057,692.2 | 348 |
| | 131 | 2,067,039.1 | 3 | 2,067,039.1 | 3 | 2,067,039.1 | 3 | 2,067,039.1 | 3 | 2,067,039.1 | 3 | 2,067,039.1 | 5 |
| | 141 | 2,256,332.6 | 14 | 2,256,332.6 | 14 | 2,256,332.6 | 16 | 2,256,332.6 | 20 | 2,256,332.6 | 23 | 2,256,332.6 | 83 |
| | 151 | 1,958,937.6 | 1635 | 1,958,937.6 | 1670 | 1,958,937.6 | 2384 | 1,958,937.6 | 1832 | 1,958,937.6 | 2277 | – | – |
| brd14051-c12-w120-3000-4000 | 51 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 |
| | 61 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 1 |
| | 71 | 1,233,936.5 | 1 | 1,233,936.5 | 1 | 1,233,936.5 | 1 | 1,233,936.5 | 1 | 1,233,936.5 | 1 | 1,233,936.5 | 2 |
| | 81 | 1,335,699.7 | 2 | 1,335,699.7 | 2 | 1,335,699.7 | 2 | 1,335,699.7 | 2 | 1,335,699.7 | 2 | 1,335,699.7 | 2 |
| | 91 | 1,542,280.8 | 2 | 1,542,280.8 | 2 | 1,444,717.8 | 1 | 1,444,794.7 | 1 | 1,444,794.7 | 1 | 1,444,717.8 | 1 |
| | 101 | 1,849,460.7 | 2 | 1,849,460.7 | 2 | 1,849,460.7 | 2 | 1,849,460.7 | 2 | 1,849,460.7 | 2 | 1,849,460.7 | 3 |
| | 111 | 1,539,836.6 | 10 | 1,539,836.6 | 10 | 1,539,836.6 | 11 | 1,539,836.6 | 10 | 1,539,836.6 | 11 | 1,539,836.6 | 26 |
| | 121 | 1,752,085.8 | 91 | 1,752,085.8 | 91 | 1,752,085.8 | 67 | 1,752,085.8 | 93 | 1,752,085.8 | 97 | 1,752,085.8 | 117 |
| | 131 | 1,859,388.2 | 3 | 1,859,388.2 | 3 | 1,858,646.3 | 15 | 1,859,388.2 | 3 | 1,859,388.2 | 3 | 1,858,646.3 | 24 |
| | 141 | 1,955,906.1 | 118 | 1,955,906.1 | 87 | 1,955,906.1 | 79 | 1,955,906.1 | 58 | 1,955,906.1 | 64 | – | – |
| | 151 | 1,854,641.1 | 85 | 1,854,641.1 | 88 | 1,854,641.1 | 1184 | 1,854,641.1 | 387 | 1,854,641.1 | 1124 | – | – |
| d18512-c12-w45-3000-4000 | 51 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 |
| | 61 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 |
| | 71 | 1,435,205.2 | 3 | 1,435,205.2 | 3 | 1,435,205.2 | 3 | 1,435,205.2 | 3 | 1,435,205.2 | 3 | 1,435,205.2 | 4 |
| | 81 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 |
| | 91 | 1,643,183.4 | 1 | 1,643,183.4 | 1 | 1,643,183.4 | 1 | 1,643,183.4 | 1 | 1,643,183.4 | 1 | 1,643,183.4 | 1 |
| | 101 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 3 |
| | 111 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 7 |
| | 121 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 |
| | 131 | 2,264,680.1 | 10 | 2,264,680.1 | 10 | 2,264,680.1 | 11 | 2,264,680.1 | 9 | 2,264,680.1 | 10 | 2,264,680.1 | 34 |
| | 141 | 2,470,199.4 | 2 | 2,470,199.4 | 2 | 2,470,199.4 | 3 | 2,470,199.4 | 3 | 2,470,199.4 | 3 | 2,470,199.4 | 7 |
| | 151 | 2,364,931.9 | 18 | 2,364,931.9 | 18 | 2,364,931.9 | 20 | 2,364,931.9 | 19 | 2,364,931.9 | 19 | 2,364,931.9 | 47 |

*Continued on next page*

Table 12 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| d18512-c12-w60-3000-4000 | 51 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 |
| | 61 | 1,129,637.7 | 80 | 1,129,637.7 | 81 | 1,129,637.7 | 83 | 1,129,637.7 | 82 | 1,129,637.7 | 81 | 1,129,637.7 | 95 |
| | 71 | 1,332,573.3 | 0 | 1,332,573.3 | 0 | 1,332,573.3 | 1 | 1,332,573.3 | 1 | 1,332,573.3 | 0 | 1,332,573.3 | 1 |
| | 81 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 |
| | 91 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 |
| | 101 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 7 |
| | 111 | 2,161,004.7 | 4 | 2,161,004.7 | 4 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 7 |
| | 121 | 2,369,463.5 | 2 | 2,369,463.5 | 2 | 2,369,386.9 | 2 | 2,369,463.5 | 2 | 2,369,463.5 | 2 | 2,369,386.9 | 8 |
| | 131 | 2,163,246.2 | 5 | 2,163,246.2 | 5 | 2,163,246.2 | 6 | 2,163,246.2 | 5 | 2,163,246.2 | 6 | 2,163,246.2 | 30 |
| | 141 | 2,058,465.5 | 223 | 2,058,465.5 | 246 | 2,058,465.5 | 310 | 2,058,465.5 | 560 | 2,058,465.5 | 919 | – | – |
| | 151 | 2,471,999.8 | 3 | 2,471,999.8 | 3 | 2,471,999.8 | 3 | 2,471,999.8 | 3 | 2,471,999.8 | 4 | 2,471,999.8 | 8 |
| d18512-c12-w75-3000-4000 | 51 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 |
| | 61 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 |
| | 71 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 |
| | 81 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 1 |
| | 91 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 2 |
| | 101 | 1,643,577.1 | 383 | 1,643,577.1 | 396 | 1,643,577.1 | 399 | 1,643,577.1 | 399 | 1,643,577.1 | 429 | 1,643,577.1 | 978 |
| | 111 | 1,853,832.7 | 1 | 1,853,832.7 | 1 | 1,853,832.7 | 2 | 1,853,832.7 | 2 | 1,853,832.7 | 2 | 1,853,832.7 | 3 |
| | 121 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 2 |
| | 131 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 3 |
| | 141 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 5 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 9 |
| | 151 | 2,164,054.5 | 64 | 2,164,054.5 | 65 | 2,164,054.5 | 104 | 2,164,054.5 | 72 | 2,164,054.5 | 72 | – | – |
| d18512-c12-w90-3000-4000 | 51 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 |
| | 61 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 1 |
| | 71 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 2 |
| | 81 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 2 |
| | 91 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 |
| | 101 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 2 | 1,643,364.4 | 1 | 1,643,364.4 | 2 | 1,643,364.4 | 4 |
| | 111 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 3 |
| | 121 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 4 | 2,059,222.6 | 7 |
| | 131 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 8 |
| | 141 | 1,955,788.1 | 7 | 1,955,788.1 | 7 | 1,955,788.1 | 9 | 1,955,788.1 | 7 | 1,955,788.1 | 9 | 1,955,788.1 | 31 |
| | 151 | 2,467,660.9 | 166 | 2,467,660.9 | 175 | 2,467,660.9 | 164 | 2,467,660.9 | 174 | 2,467,660.9 | 180 | – | – |
| d18512-c12-w120-3000-4000 | 51 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 |
| | 61 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 |
| | 71 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 2 |
| | 81 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 5 |
| | 91 | 1,442,136.0 | 2 | 1,442,136.0 | 2 | 1,442,136.0 | 2 | 1,442,136.0 | 2 | 1,442,136.0 | 2 | 1,442,136.0 | 3 |
| | 101 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 8 |
| | 111 | 1,749,366.0 | 2 | 1,749,366.0 | 2 | 1,749,053.5 | 2 | 1,749,366.0 | 3 | 1,749,366.0 | 3 | 1,749,053.5 | 3 |
| | 121 | 1,961,979.0 | 3 | 1,961,979.0 | 3 | 1,961,979.0 | 3 | 1,961,979.0 | 3 | 1,961,979.0 | 3 | 1,961,979.0 | 4 |
| | 131 | 1,749,662.0 | 445 | 1,749,662.0 | 462 | 1,749,662.0 | 1196 | – | – | 1,749,662.0 | 1903 | – | – |
| | 141 | 1,955,366.4 | 221 | 1,955,366.4 | 227 | 1,955,366.4 | 389 | 1,955,366.4 | 316 | 1,955,366.4 | 245 | 1,955,366.4 | 1584 |
| | 151 | 2,059,976.1 | 18 | 2,059,976.1 | 18 | 2,059,976.1 | 26 | 2,059,976.1 | 17 | 2,059,976.1 | 17 | 2,059,976.1 | 337 |
| fn14461-c12-w45-3000-4000 | 51 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 |
| | 61 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 |
| | 71 | 917,355.6 | 2 | 917,355.6 | 2 | 917,355.6 | 2 | 917,355.6 | 2 | 917,355.6 | 2 | 917,355.6 | 3 |
| | 81 | 921,221.2 | 8 | 921,221.2 | 8 | 921,221.2 | 6 | 921,221.2 | 8 | 921,221.2 | 5 | 921,221.2 | 8 |
| | 91 | 1,021,195.6 | 10 | 1,021,195.6 | 10 | 1,021,195.6 | 19 | 1,021,195.6 | 12 | 1,021,195.6 | 15 | 1,021,195.6 | 37 |
| | 101 | 1,228,107.6 | 16 | 1,228,107.6 | 16 | 1,228,107.6 | 17 | 1,228,107.6 | 17 | 1,228,107.6 | 17 | 1,228,107.6 | 20 |
| | 111 | 1,329,296.4 | 30 | 1,329,296.4 | 30 | 1,329,296.4 | 27 | 1,329,296.4 | 31 | 1,329,296.4 | 27 | 1,329,296.4 | 49 |
| | 121 | 1,431,497.8 | 18 | 1,431,497.8 | 18 | 1,431,497.8 | 20 | 1,431,497.8 | 15 | 1,431,497.8 | 16 | 1,431,497.8 | 38 |
| | 131 | 1,540,748.8 | 5 | 1,540,748.8 | 5 | 1,540,748.8 | 6 | 1,540,748.8 | 5 | 1,540,748.8 | 5 | 1,540,748.8 | 9 |
| | 141 | 1,643,123.3 | 22 | 1,643,123.3 | 23 | 1,643,123.3 | 95 | 1,643,123.3 | 19 | 1,643,123.3 | 41 | 1,643,123.3 | 298 |
| | 151 | 1,638,676.9 | 38 | 1,638,676.9 | 38 | 1,638,676.9 | 41 | 1,638,676.9 | 38 | 1,638,676.9 | 40 | 1,638,676.9 | 107 |

*Continued on next page*

Table 12 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| fnl4461-c12-w60-3000-4000 | 51 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 2 |
| | 61 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 2 |
| | 71 | 819,134.2 | 7 | 819,134.2 | 8 | 819,134.2 | 9 | 819,134.2 | 8 | 819,134.2 | 6 | 819,134.2 | 29 |
| | 81 | 921,467.0 | 31 | 921,467.0 | 32 | 921,467.0 | 27 | 921,467.0 | 32 | 921,467.0 | 35 | 921,467.0 | 47 |
| | 91 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 4 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 7 |
| | 101 | 1,125,975.0 | 46 | 1,125,975.0 | 47 | 1,125,975.0 | 44 | 1,125,975.0 | 54 | 1,125,975.0 | 54 | 1,125,975.0 | 85 |
| | 111 | 1,329,538.8 | 14 | 1,329,538.8 | 14 | 1,329,538.8 | 14 | 1,329,538.8 | 14 | 1,329,538.8 | 14 | 1,329,538.8 | 35 |
| | 121 | 1,230,909.8 | 13 | 1,230,909.8 | 13 | 1,230,909.8 | 18 | 1,230,909.8 | 12 | 1,230,909.8 | 23 | 1,230,909.8 | 69 |
| | 131 | 1,538,343.5 | 224 | 1,538,343.5 | 227 | 1,538,343.5 | 316 | 1,538,343.5 | 332 | 1,538,343.5 | 315 | 1,538,343.5 | 960 |
| | 141 | 1,438,867.9 | 490 | 1,438,867.9 | 503 | 1,438,867.9 | 830 | 1,438,867.9 | 482 | 1,438,867.9 | 579 | 1,438,867.9 | 2695 |
| | 151 | 1,538,532.2 | 2726 | 1,538,532.2 | 2852 | 1,538,532.2 | 3342 | 1,538,532.2 | 3177 | 1,538,532.2 | 3363 | – | – |
| fnl4461-c12-w75-3000-4000 | 51 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 1 |
| | 61 | 717,332.9 | 1 | 717,332.9 | 1 | 717,332.9 | 1 | 717,332.9 | 1 | 717,332.9 | 1 | 717,332.9 | 1 |
| | 71 | 819,042.5 | 5 | 819,042.5 | 6 | 819,007.5 | 9 | 819,042.5 | 6 | 819,042.5 | 6 | 818,324.2 | 3 |
| | 81 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 6 |
| | 91 | 1,022,952.2 | 4 | 1,022,952.2 | 4 | 1,022,952.2 | 4 | 1,022,952.2 | 4 | 1,022,952.2 | 4 | 1,022,952.2 | 9 |
| | 101 | 1,225,360.3 | 37 | 1,225,360.3 | 39 | 1,225,360.3 | 49 | 1,225,360.3 | 39 | 1,225,360.3 | 44 | 1,225,360.3 | 90 |
| | 111 | 1,130,640.3 | 94 | 1,130,640.3 | 98 | 1,130,018.5 | 44 | 1,130,640.3 | 112 | 1,130,640.3 | 113 | 1,130,018.5 | 79 |
| | 121 | 1,333,932.4 | 27 | 1,333,932.4 | 29 | 1,333,932.4 | 60 | 1,333,932.4 | 46 | 1,333,932.4 | 48 | 1,333,932.4 | 160 |
| | 131 | 1,434,567.2 | 113 | 1,434,567.2 | 120 | 1,434,567.2 | 105 | 1,434,567.2 | 92 | 1,434,567.2 | 105 | 1,434,567.2 | 500 |
| | 141 | 1,537,958.0 | 154 | 1,537,958.0 | 161 | 1,537,958.0 | 187 | 1,537,958.0 | 215 | 1,537,958.0 | 209 | 1,537,958.0 | 693 |
| | 151 | 1,440,924.3 | 172 | 1,440,924.3 | 182 | 1,440,924.3 | 234 | 1,440,924.3 | 206 | 1,440,924.3 | 174 | 1,440,924.3 | 3282 |
| fnl4461-c12-w90-3000-4000 | 51 | 714,229.4 | 1 | 714,229.4 | 1 | 714,229.4 | 1 | 714,229.4 | 1 | 714,229.4 | 1 | 714,229.4 | 1 |
| | 61 | 817,382.7 | 279 | 817,382.7 | 283 | 817,013.2 | 167 | 817,382.7 | 362 | 817,382.7 | 356 | 817,013.2 | 186 |
| | 71 | 815,054.6 | 4 | 815,054.6 | 4 | 815,054.6 | 4 | 815,054.6 | 4 | 815,054.6 | 4 | 815,054.6 | 10 |
| | 81 | 921,498.3 | 4 | 921,498.3 | 4 | 921,498.3 | 4 | 921,498.3 | 3 | 921,498.3 | 4 | 921,498.3 | 7 |
| | 91 | 923,090.8 | 13 | 923,090.8 | 14 | 923,090.8 | 15 | 923,090.8 | 14 | 923,090.8 | 15 | 923,090.8 | 41 |
| | 101 | 1,126,405.4 | 191 | 1,126,405.4 | 201 | 1,126,342.8 | 348 | 1,126,405.4 | 195 | 1,126,405.4 | 296 | – | – |
| | 111 | 1,227,372.2 | 211 | 1,227,372.2 | 221 | 1,227,372.2 | 500 | 1,227,372.2 | 479 | 1,227,372.2 | 440 | – | – |
| | 121 | 1,331,507.2 | 190 | 1,331,507.2 | 296 | 1,331,507.2 | 527 | 1,331,507.2 | 310 | 1,331,507.2 | 586 | 1,331,507.2 | 3173 |
| | 131 | 1,230,658.8 | 567 | 1,230,658.8 | 595 | 1,230,658.8 | 616 | 1,230,658.8 | 756 | 1,230,658.8 | 560 | – | – |
| | 141 | 1,336,169.2 | 512 | 1,336,169.2 | 545 | 1,336,169.2 | 744 | 1,336,169.2 | 512 | 1,336,169.2 | 627 | 1,336,169.2 | 2534 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w120-3000-4000 | 51 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 6 |
| | 61 | 615,855.5 | 2 | 615,855.5 | 2 | 615,855.5 | 3 | 615,855.5 | 3 | 615,855.5 | 3 | 615,855.5 | 13 |
| | 71 | 617,274.7 | 2 | 617,274.7 | 3 | 617,274.7 | 3 | 617,274.7 | 4 | 617,274.7 | 4 | 617,274.7 | 50 |
| | 81 | 819,609.3 | 171 | 819,609.3 | 179 | 819,609.3 | 232 | 819,609.3 | 202 | 819,609.3 | 281 | – | – |
| | 91 | 819,189.6 | 78 | 819,189.6 | 72 | 819,189.6 | 126 | 819,189.6 | 81 | 819,189.6 | 141 | 819,189.6 | 3029 |
| | 101 | 1,026,917.6 | 185 | 1,026,917.6 | 212 | 1,026,917.6 | 533 | 1,026,917.6 | 261 | 1,026,917.6 | 449 | – | – |
| | 111 | 1,025,469.6 | 1447 | 1,025,469.6 | 1568 | 1,025,469.6 | 2669 | 1,025,469.6 | 2590 | 1,025,469.6 | 3355 | – | – |
| | 121 | 1,128,918.1 | 95 | 1,128,918.1 | 115 | 1,128,918.1 | 147 | 1,128,918.1 | 110 | 1,128,899.5 | 465 | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| nrw1379-c12-w45-3000-4000 | 51 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 |
| | 61 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 2 |
| | 71 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 |
| | 81 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 3 |
| | 91 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 |
| | 101 | 1,329,356.9 | 10 | 1,329,356.9 | 10 | 1,329,356.9 | 9 | 1,329,356.9 | 10 | 1,329,356.9 | 23 | 1,329,356.9 | 14 |
| | 111 | 1,533,384.5 | 9 | 1,533,384.5 | 9 | 1,434,738.9 | 12 | 1,533,384.5 | 9 | 1,533,384.5 | 9 | 1,434,738.9 | 19 |
| | 121 | 1,538,975.6 | 33 | 1,538,975.6 | 33 | 1,538,975.6 | 26 | 1,538,975.6 | 33 | 1,538,975.6 | 35 | 1,538,975.6 | 61 |
| | 131 | 1,840,937.1 | 84 | 1,840,937.1 | 83 | 1,840,937.1 | 55 | 1,840,937.1 | 84 | 1,840,937.1 | 88 | 1,840,937.1 | 108 |
| | 141 | 1,945,073.1 | 18 | 1,945,073.1 | 18 | 1,945,073.1 | 48 | 1,945,073.1 | 24 | 1,945,073.1 | 26 | 1,945,073.1 | 260 |
| | 151 | 2,050,358.3 | 7 | 2,050,358.3 | 7 | 2,050,358.3 | 6 | 2,050,358.3 | 7 | 2,050,358.3 | 7 | 2,050,358.3 | 10 |

*Continued on next page*

Table 12 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| nrw1379-c12-w60-3000-4000 | 51 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 |
| | 61 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 5 |
| | 71 | 1,122,155.8 | 2 | 1,122,155.8 | 2 | 1,122,155.8 | 1 | 1,122,155.8 | 2 | 1,122,155.8 | 2 | 1,122,155.8 | 3 |
| | 81 | 1,226,745.1 | 1 | 1,226,745.1 | 1 | 1,226,745.1 | 1 | 1,226,745.1 | 1 | 1,226,745.1 | 1 | 1,226,745.1 | 2 |
| | 91 | 1,228,044.8 | 6 | 1,228,044.8 | 5 | 1,228,044.8 | 5 | 1,228,044.8 | 6 | 1,228,044.8 | 6 | 1,228,044.8 | 8 |
| | 101 | 1,331,871.7 | 2 | 1,331,871.7 | 2 | 1,331,871.7 | 2 | 1,331,871.7 | 2 | 1,331,871.7 | 2 | 1,331,871.7 | 3 |
| | 111 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 8 |
| | 121 | 1,539,615.2 | 39 | 1,539,615.2 | 39 | 1,539,615.2 | 54 | 1,539,615.2 | 98 | 1,539,615.2 | 97 | 1,539,615.2 | 139 |
| | 131 | 1,637,882.3 | 112 | 1,637,882.3 | 114 | 1,637,704.3 | 78 | 1,637,882.3 | 117 | 1,637,704.3 | 58 | 1,637,704.3 | 246 |
| | 141 | 1,946,218.6 | 29 | 1,946,218.6 | 30 | 1,946,218.6 | 35 | 1,946,218.6 | 30 | 1,946,218.6 | 36 | 1,946,218.6 | 531 |
| | 151 | 1,744,313.0 | 289 | 1,744,313.0 | 303 | 1,743,758.8 | 329 | 1,744,313.0 | 311 | 1,744,313.0 | 421 | 1,743,758.8 | 1776 |
| nrw1379-c12-w75-3000-4000 | 51 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 1 |
| | 61 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 |
| | 71 | 1,020,804.5 | 1 | 1,020,804.5 | 1 | 1,020,804.5 | 2 | 1,020,804.5 | 2 | 1,020,804.5 | 2 | 1,020,804.5 | 3 |
| | 81 | 1,124,893.0 | 11 | 1,124,893.0 | 11 | 1,124,893.0 | 12 | 1,124,893.0 | 11 | 1,124,893.0 | 12 | 1,124,893.0 | 19 |
| | 91 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 4 | 1,229,438.5 | 3 | 1,229,438.5 | 4 | 1,229,438.5 | 7 |
| | 101 | 1,127,714.6 | 22 | 1,127,714.6 | 23 | 1,127,714.6 | 30 | 1,127,714.6 | 22 | 1,127,714.6 | 25 | 1,127,714.6 | 84 |
| | 111 | 1,433,221.9 | 2 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 8 |
| | 121 | 1,433,265.8 | 79 | 1,433,265.8 | 177 | 1,433,265.8 | 108 | 1,433,265.8 | 128 | 1,433,265.8 | 108 | 1,433,265.8 | 258 |
| | 131 | 1,537,208.9 | 6 | 1,537,208.9 | 7 | 1,537,208.9 | 7 | 1,537,208.9 | 7 | 1,537,208.9 | 8 | 1,537,208.9 | 27 |
| | 141 | 1,642,869.8 | 52 | 1,642,869.8 | 53 | 1,642,869.8 | 68 | 1,642,869.8 | 102 | 1,642,869.8 | 56 | 1,642,869.8 | 454 |
| | 151 | 1,644,354.3 | 290 | 1,644,354.3 | 308 | 1,644,354.3 | 339 | 1,644,354.3 | 320 | 1,644,354.3 | 381 | 1,644,354.3 | 931 |
| nrw1379-c12-w90-3000-4000 | 51 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 |
| | 61 | 1,222,461.1 | 1 | 1,222,461.1 | 1 | 1,222,461.1 | 0 | 1,222,461.1 | 1 | 1,222,461.1 | 1 | 1,222,461.1 | 1 |
| | 71 | 1,021,147.9 | 4 | 1,021,147.9 | 5 | 1,021,147.9 | 6 | 1,021,147.9 | 5 | 1,021,147.9 | 7 | 1,021,147.9 | 235 |
| | 81 | 1,023,927.9 | 8 | 1,023,927.9 | 9 | 1,023,927.9 | 15 | 1,023,927.9 | 9 | 1,023,927.9 | 15 | 1,023,927.9 | 1242 |
| | 91 | 1,323,415.2 | 4 | 1,323,415.2 | 4 | 1,323,415.2 | 5 | 1,323,415.2 | 4 | 1,323,415.2 | 5 | 1,323,415.2 | 39 |
| | 101 | 1,330,076.4 | 8 | 1,330,076.4 | 9 | 1,330,076.4 | 11 | 1,330,076.4 | 9 | 1,330,076.4 | 10 | 1,330,076.4 | 30 |
| | 111 | 1,230,435.8 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 3 | 1,230,435.8 | 4 | 1,230,435.8 | 9 |
| | 121 | 1,333,888.5 | 8 | 1,333,888.5 | 8 | 1,333,888.5 | 9 | 1,333,888.5 | 7 | 1,333,888.5 | 9 | 1,333,888.5 | 38 |
| | 131 | 1,333,662.5 | 21 | 1,333,662.5 | 24 | 1,333,662.5 | 40 | 1,333,662.5 | 25 | 1,333,662.5 | 37 | 1,333,662.5 | 2271 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,638,614.1 | 1044 | 1,638,614.1 | 1102 | 1,638,614.1 | 711 | 1,638,614.1 | 798 | 1,638,614.1 | 896 | – | – |
| nrw1379-c12-w120-3000-4000 | 51 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 16 |
| | 61 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 |
| | 71 | 1,023,083.2 | 6 | 1,023,083.2 | 7 | 1,023,083.2 | 7 | 1,023,083.2 | 6 | 1,023,083.2 | 7 | 1,023,083.2 | 28 |
| | 81 | 923,992.7 | 7 | 923,992.7 | 7 | 923,992.7 | 8 | 923,992.7 | 6 | 923,992.7 | 7 | 923,992.7 | 27 |
| | 91 | 1,023,007.4 | 6 | 1,023,007.4 | 7 | 1,023,007.4 | 8 | 1,023,007.4 | 6 | 1,023,007.4 | 7 | 1,023,007.4 | 24 |
| | 101 | 1,229,648.7 | 11 | 1,229,648.7 | 12 | 1,229,648.7 | 25 | 1,229,648.7 | 33 | 1,229,648.7 | 30 | 1,229,648.7 | 82 |
| | 111 | 1,231,008.5 | 204 | 1,231,008.5 | 209 | 1,231,008.5 | 246 | 1,231,008.5 | 262 | 1,231,008.5 | 283 | 1,231,008.5 | 778 |
| | 121 | 1,331,800.2 | 2254 | 1,331,800.2 | 2280 | 1,233,853.3 | 2917 | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | 1,639,335.0 | 49 | 1,639,335.0 | 56 | 1,639,335.0 | 56 | 1,639,335.0 | 63 | 1,639,335.0 | 48 | 1,639,335.0 | 266 |
| | 151 | 1,440,487.1 | 461 | 1,440,487.1 | 614 | 1,440,434.2 | 461 | 1,440,487.1 | 777 | 1,440,487.1 | 442 | – | – |
| Solved | | | 284 | | 283 | | 283 | | 280 | | 280 | | 259 |
| ∅ Time | | | 150.2 | | 144.5 | | 172.6 | | 137.0 | | 158.3 | | 232.6 |

**Table 13: Detailed computational results $\delta = 10$ and with two stacks**

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w15-500-1000 | 51 | 804,107.0 | 0 | 804,107.0 | 1 | 804,107.0 | 1 | 804,107.0 | 1 | 804,107.0 | 1 | 804,107.0 | 1 |
| | 61 | 905,193.0 | 1 | 905,193.0 | 2 | 905,193.0 | 2 | 905,193.0 | 2 | 905,193.0 | 2 | 905,193.0 | 3 |
| | 71 | 906,135.1 | 1 | 906,135.1 | 1 | 906,135.1 | 1 | 906,135.1 | 1 | 906,135.1 | 1 | 906,135.1 | 2 |
| | 81 | 1,307,681.0 | 3 | 1,307,681.0 | 3 | 1,307,681.0 | 3 | 1,307,681.0 | 3 | 1,307,681.0 | 4 | 1,307,681.0 | 5 |
| | 91 | 1,308,078.9 | 6 | 1,308,078.9 | 5 | 1,308,078.9 | 5 | 1,308,078.9 | 6 | 1,308,078.9 | 5 | 1,308,054.0 | 6 |
| | 101 | 1,510,575.3 | 1 | 1,510,575.3 | 1 | 1,510,575.3 | 1 | 1,510,575.3 | 1 | 1,510,575.3 | 1 | 1,510,526.0 | 1 |
| | 111 | 1,812,333.9 | 5 | 1,812,333.9 | 5 | 1,812,333.9 | 5 | 1,812,333.9 | 5 | 1,812,333.9 | 6 | 1,812,333.9 | 7 |
| | 121 | 1,611,903.1 | 222 | 1,611,903.1 | 242 | 1,611,903.1 | 184 | 1,611,903.1 | 273 | 1,611,903.1 | 308 | 1,611,903.1 | 550 |
| | 131 | 1,712,256.5 | 131 | 1,712,106.4 | 46 | 1,712,106.4 | 49 | 1,712,256.5 | 139 | 1,712,106.4 | 44 | 1,712,083.7 | 154 |
| | 141 | 1,913,432.5 | 36 | 1,913,432.5 | 39 | 1,913,432.5 | 47 | 1,913,432.5 | 35 | 1,913,432.5 | 47 | 1,913,432.5 | 183 |
| | 151 | 2,015,496.6 | 218 | 2,015,496.6 | 189 | 2,015,496.6 | 230 | 2,015,496.6 | 220 | 2,015,496.6 | 259 | 2,015,481.1 | 624 |
| a280-c12-w15-1000-1200 | 51 | 904,564.9 | 0 | 904,564.9 | 0 | 904,564.9 | 0 | 904,564.9 | 0 | 804,792.2 | 0 | 804,792.2 | 0 |
| | 61 | 805,277.1 | 1 | 805,277.1 | 1 | 805,277.1 | 1 | 805,277.1 | 1 | 805,277.1 | 1 | 805,248.2 | 1 |
| | 71 | 1,005,817.9 | 1 | 1,005,817.9 | 1 | 1,005,817.9 | 1 | 1,005,817.9 | 1 | 1,005,817.9 | 1 | 1,005,817.9 | 2 |
| | 81 | 1,207,711.8 | 3 | 1,207,711.8 | 4 | 1,207,711.8 | 4 | 1,207,711.8 | 4 | 1,207,711.8 | 4 | 1,207,693.3 | 4 |
| | 91 | 1,209,279.1 | 15 | 1,209,279.1 | 17 | 1,209,279.1 | 17 | 1,209,264.9 | 11 | 1,209,264.9 | 8 | 1,209,264.9 | 12 |
| | 101 | 1,210,550.3 | 31 | 1,210,550.3 | 29 | 1,210,550.3 | 47 | 1,210,550.3 | 18 | 1,210,437.0 | 22 | 1,210,437.0 | 32 |
| | 111 | 1,310,788.6 | 125 | 1,310,788.6 | 136 | 1,310,788.6 | 109 | 1,310,746.5 | 120 | 1,310,746.5 | 169 | 1,310,746.5 | 172 |
| | 121 | 1,209,823.4 | 56 | 1,209,823.4 | 143 | 1,209,823.4 | 97 | 1,209,823.4 | 75 | 1,209,823.4 | 292 | 1,209,823.4 | 513 |
| | 131 | 1,512,027.3 | 1902 | 1,512,027.3 | 2467 | 1,512,027.3 | 2746 | 1,511,961.2 | 3243 | 1,511,873.4 | 894 | 1,511,873.4 | 1451 |
| | 141 | 1,813,315.4 | 31 | 1,813,315.4 | 23 | 1,813,315.4 | 36 | 1,813,315.4 | 651 | 1,813,200.6 | 477 | 1,812,919.3 | 9 |
| | 151 | 1,714,414.3 | 223 | 1,714,414.3 | 258 | 1,714,414.3 | 258 | 1,714,414.3 | 1360 | – | – | – | – |
| a280-c12-w15-1500-2000 | 51 | 504,017.8 | 1 | 503,879.0 | 2 | 503,879.0 | 2 | 504,017.8 | 2 | 503,879.0 | 3 | 503,879.0 | 4 |
| | 61 | 604,803.4 | 3 | 604,803.4 | 4 | 604,803.4 | 3 | 604,803.4 | 4 | 604,803.4 | 4 | 604,803.4 | 7 |
| | 71 | 705,156.8 | 15 | 705,156.8 | 17 | 705,156.8 | 17 | 705,154.4 | 17 | 705,154.4 | 20 | 705,154.4 | 102 |
| | 81 | 806,404.3 | 68 | 806,404.3 | 65 | 806,404.3 | 93 | 806,404.3 | 71 | 806,404.3 | 197 | 806,404.3 | 238 |
| | 91 | 907,690.8 | 109 | 907,690.8 | 188 | 907,690.8 | 158 | 907,690.8 | 114 | 907,690.8 | 248 | 907,690.8 | 710 |
| | 101 | 908,007.2 | 519 | 908,007.2 | 804 | 908,007.2 | 895 | 908,004.4 | 849 | 908,004.4 | 1524 | 908,004.4 | 1895 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-500-1000 | 51 | 704,240.2 | 1 | 704,240.2 | 1 | 704,240.2 | 1 | 704,240.2 | 1 | 704,240.2 | 2 | 704,220.7 | 2 |
| | 61 | 804,540.9 | 4 | 804,540.9 | 4 | 804,540.9 | 5 | 804,540.9 | 4 | 804,540.9 | 5 | 804,540.9 | 10 |
| | 71 | 905,508.6 | 4 | 905,508.6 | 4 | 905,508.6 | 4 | 905,508.6 | 4 | 905,508.6 | 4 | 905,508.6 | 5 |
| | 81 | 1,107,004.0 | 12 | 1,107,004.0 | 10 | 1,106,997.2 | 67 | 1,107,004.0 | 15 | 1,107,004.0 | 17 | 1,106,968.2 | 83 |
| | 91 | 1,208,019.7 | 5 | 1,208,019.7 | 6 | 1,208,019.7 | 6 | 1,208,019.7 | 4 | 1,208,019.7 | 8 | 1,207,915.2 | 10 |
| | 101 | 1,309,256.2 | 68 | 1,309,256.2 | 44 | 1,309,256.2 | 175 | 1,309,256.2 | 73 | 1,309,256.2 | 82 | 1,309,256.2 | 261 |
| | 111 | 1,410,029.0 | 1383 | 1,410,029.0 | 1662 | 1,410,029.0 | 1595 | 1,410,029.0 | 1721 | 1,410,029.0 | 1959 | 1,410,008.5 | 1390 |
| | 121 | 1,510,542.8 | 41 | 1,510,542.8 | 44 | 1,510,542.8 | 122 | 1,510,542.8 | 52 | 1,510,542.8 | 50 | 1,510,529.5 | 157 |
| | 131 | 1,510,799.9 | 547 | 1,510,799.9 | 500 | 1,510,799.9 | 720 | 1,510,799.9 | 623 | 1,510,799.9 | 619 | 1,510,799.9 | 1012 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-1000-1200 | 51 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 |
| | 61 | 704,413.3 | 1 | 704,413.3 | 1 | 704,413.3 | 1 | 704,413.3 | 1 | 704,413.3 | 1 | 704,413.3 | 1 |
| | 71 | 905,796.6 | 14 | 905,693.3 | 2 | 905,693.3 | 2 | 905,796.6 | 15 | 905,693.3 | 2 | 905,693.3 | 5 |
| | 81 | 1,007,211.6 | 2 | 1,007,211.6 | 2 | 1,007,165.5 | 2 | 1,007,211.6 | 2 | 1,007,211.6 | 2 | 1,007,165.5 | 2 |
| | 91 | 1,208,094.6 | 13 | 1,208,094.6 | 15 | 1,208,094.6 | 47 | 1,208,094.6 | 13 | 1,208,094.6 | 24 | 1,108,659.2 | 82 |
| | 101 | 1,209,618.1 | 12 | 1,209,618.1 | 12 | 1,209,618.1 | 14 | 1,209,618.1 | 15 | 1,209,618.1 | 18 | 1,209,618.1 | 27 |
| | 111 | 1,310,735.9 | 37 | 1,310,735.9 | 27 | 1,310,735.9 | 24 | 1,310,735.9 | 20 | 1,310,735.9 | 11 | 1,310,735.9 | 33 |
| | 121 | – | – | – | – | – | – | 1,411,768.5 | 13 | 1,411,768.5 | 16 | 1,411,768.5 | 25 |
| | 131 | 1,210,753.7 | 248 | 1,210,753.7 | 293 | 1,210,753.7 | 471 | 1,210,753.7 | 934 | 1,210,707.6 | 944 | 1,210,707.6 | 2985 |
| | 141 | 1,512,181.4 | 1818 | 1,512,181.4 | 1959 | 1,512,181.4 | 2526 | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |

*Continued on next page*

Table 13 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w30-1500-2000 | 51 | 503,666.4 | 8 | 503,666.4 | 9 | 503,666.4 | 14 | 503,666.4 | 9 | 503,644.1 | 17 | 503,644.1 | 29 |
| | 61 | 504,610.9 | 12 | 504,610.9 | 16 | 504,610.9 | 23 | 504,610.9 | 19 | 504,610.9 | 44 | 504,610.9 | 151 |
| | 71 | 705,050.1 | 12 | 705,050.1 | 15 | 705,050.1 | 20 | 705,050.1 | 15 | 705,050.1 | 21 | 705,050.1 | 45 |
| | 81 | 706,453.7 | 403 | 706,453.7 | 505 | 706,303.2 | 58 | 706,448.0 | 450 | 706,448.0 | 1173 | 706,303.2 | 125 |
| | 91 | 706,971.7 | 40 | 706,971.7 | 48 | 706,971.7 | 62 | 706,971.7 | 76 | 706,833.5 | 47 | 706,821.5 | 82 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-500-1000 | 51 | 703,891.0 | 3 | 703,891.0 | 3 | 604,315.2 | 2 | 703,891.0 | 3 | 703,891.0 | 3 | 604,315.2 | 3 |
| | 61 | 704,384.4 | 40 | 704,384.4 | 47 | 704,384.4 | 42 | 704,384.4 | 41 | 704,384.4 | 47 | 704,384.4 | 73 |
| | 71 | 805,510.6 | 139 | 805,510.6 | 285 | 805,510.6 | 277 | 805,510.6 | 175 | 805,510.6 | 324 | 805,510.6 | 467 |
| | 81 | 907,083.6 | 46 | 907,055.2 | 49 | 907,055.2 | 170 | 906,788.9 | 16 | 906,536.2 | 13 | 906,536.2 | 19 |
| | 91 | 1,007,140.5 | 22 | 1,007,140.5 | 25 | 1,007,140.5 | 58 | 1,007,140.5 | 23 | 1,007,140.5 | 38 | 1,007,140.5 | 135 |
| | 101 | 1,209,046.2 | 158 | 1,209,046.2 | 118 | 1,209,033.9 | 181 | 1,209,046.2 | 157 | 1,209,046.2 | 181 | 1,209,023.7 | 1008 |
| | 111 | 1,309,696.5 | 1261 | 1,309,696.5 | 1682 | 1,309,696.5 | 3259 | 1,309,696.5 | 1335 | 1,309,696.5 | 2329 | – | – |
| | 121 | 1,309,805.8 | 3305 | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1000-1200 | 51 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 |
| | 61 | 603,892.3 | 4 | 603,892.3 | 4 | 603,892.3 | 6 | 603,892.3 | 5 | 603,892.3 | 7 | 603,892.3 | 12 |
| | 71 | 705,432.8 | 28 | 705,432.8 | 31 | 705,432.8 | 42 | 705,432.8 | 47 | 705,432.8 | 148 | 705,432.8 | 268 |
| | 81 | 806,586.9 | 71 | 806,586.9 | 75 | 806,586.9 | 137 | 806,586.9 | 73 | 806,586.9 | 133 | 806,586.9 | 396 |
| | 91 | 1,007,539.9 | 36 | 1,007,539.9 | 38 | 1,007,528.9 | 248 | 1,007,539.9 | 79 | 1,007,528.6 | 547 | 1,007,506.6 | 689 |
| | 101 | 1,109,187.2 | 340 | 1,109,187.2 | 285 | 1,108,996.2 | 76 | 1,108,996.2 | 69 | 1,108,996.2 | 149 | 1,108,871.0 | 131 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1500-2000 | 51 | 503,972.3 | 79 | 503,972.3 | 58 | 503,972.3 | 57 | 503,972.3 | 81 | 503,972.3 | 110 | 503,814.0 | 18 |
| | 61 | 604,358.6 | 96 | 604,358.6 | 107 | 604,327.9 | 81 | 604,358.6 | 150 | 604,358.6 | 177 | 604,287.5 | 154 |
| | 71 | 604,937.8 | 62 | 604,937.8 | 60 | 604,937.8 | 107 | 604,937.8 | 171 | 604,937.8 | 165 | 604,937.8 | 1499 |
| | 81 | 607,332.2 | 23 | 607,332.2 | 25 | 607,318.5 | 239 | 607,251.3 | 26 | 607,251.3 | 31 | 607,243.3 | 639 |
| | 91 | 807,169.1 | 623 | 807,169.1 | 1025 | 807,169.1 | 1340 | 806,981.5 | 147 | 806,981.5 | 191 | 806,981.5 | 460 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| brd14051-c12-w45-3000-4000 | 51 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 |
| | 61 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| | 71 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 1 |
| | 81 | 1,437,815.8 | 3 | 1,437,815.8 | 3 | 1,437,815.8 | 3 | 1,437,815.8 | 3 | 1,437,815.8 | 3 | 1,437,815.8 | 4 |
| | 91 | 1,953,886.2 | 1 | 1,953,886.2 | 1 | 1,953,886.2 | 1 | 1,953,886.2 | 1 | 1,953,886.2 | 1 | 1,953,886.2 | 1 |
| | 101 | 1,850,783.2 | 2 | 1,850,783.2 | 2 | 1,850,783.2 | 2 | 1,850,783.2 | 2 | 1,850,783.2 | 2 | 1,850,783.2 | 2 |
| | 111 | 2,052,559.3 | 1 | 2,052,559.3 | 1 | 2,052,559.3 | 1 | 2,052,559.3 | 1 | 2,052,559.3 | 2 | 2,052,559.3 | 2 |
| | 121 | 2,060,976.5 | 2 | 2,060,976.5 | 2 | 2,059,718.2 | 3 | 2,060,976.5 | 2 | 2,059,718.2 | 3 | 2,059,718.2 | 3 |
| | 131 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 |
| | 141 | 2,570,663.7 | 6 | 2,570,644.9 | 4 | 2,570,644.9 | 6 | 2,570,663.7 | 5 | 2,570,644.9 | 5 | 2,570,644.9 | 11 |
| | 151 | 2,669,234.1 | 183 | 2,669,234.1 | 190 | 2,669,106.1 | 50 | 2,669,234.1 | 250 | 2,669,220.9 | 773 | 2,669,106.1 | 83 |

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Table 13 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| brd14051-c12-w60-3000-4000 | 51 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 |
| | 61 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 |
| | 71 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 |
| | 81 | 1,639,524.2 | 0 | 1,639,524.2 | 0 | 1,639,524.2 | 0 | 1,639,524.2 | 0 | 1,639,524.2 | 0 | 1,639,524.2 | 0 |
| | 91 | 1,641,774.1 | 3 | 1,641,774.1 | 3 | 1,641,774.1 | 4 | 1,641,774.1 | 4 | 1,641,774.1 | 4 | 1,641,774.1 | 5 |
| | 101 | 1,948,345.1 | 2 | 1,948,345.1 | 2 | 1,948,345.1 | 2 | 1,948,345.1 | 2 | 1,948,345.1 | 2 | 1,948,345.1 | 3 |
| | 111 | 1,645,847.9 | 2 | 1,645,847.9 | 3 | 1,645,846.5 | 4 | 1,645,847.9 | 3 | 1,645,847.9 | 3 | 1,645,846.5 | 9 |
| | 121 | 2,467,816.2 | 8 | 2,467,816.2 | 8 | 2,467,816.2 | 9 | 2,467,816.2 | 9 | 2,467,816.2 | 6 | 2,467,816.2 | 12 |
| | 131 | 2,471,090.7 | 1 | 2,471,090.7 | 1 | 2,471,090.7 | 1 | 2,471,090.7 | 1 | 2,471,090.7 | 1 | 2,471,090.7 | 1 |
| | 141 | 2,262,257.8 | 3 | 2,262,257.8 | 3 | 2,261,963.9 | 4 | 2,262,257.8 | 4 | 2,262,257.8 | 3 | 2,261,963.9 | 5 |
| | 151 | 2,470,487.6 | 9 | 2,470,487.6 | 9 | 2,470,487.6 | 15 | 2,470,487.6 | 10 | 2,470,487.6 | 13 | 2,470,487.6 | 44 |
| brd14051-c12-w75-3000-4000 | 51 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 |
| | 61 | 1,336,523.1 | 18 | 1,336,523.1 | 19 | 1,336,523.1 | 19 | 1,336,523.1 | 19 | 1,336,523.1 | 20 | 1,336,523.1 | 21 |
| | 71 | 1,435,529.2 | 3 | 1,435,529.2 | 3 | 1,435,188.2 | 14 | 1,435,529.2 | 3 | 1,435,188.2 | 9 | 1,435,166.0 | 25 |
| | 81 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 |
| | 91 | 1,540,611.3 | 22 | 1,540,611.3 | 24 | 1,540,611.3 | 31 | 1,540,611.3 | 24 | 1,540,611.3 | 26 | 1,540,611.3 | 32 |
| | 101 | 1,952,307.3 | 1 | 1,952,307.3 | 1 | 1,952,307.3 | 2 | 1,952,307.3 | 1 | 1,952,307.3 | 1 | 1,952,307.3 | 2 |
| | 111 | 1,854,552.4 | 1 | 1,854,552.4 | 1 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 2 | 1,852,896.4 | 3 |
| | 121 | 2,058,036.6 | 3 | 2,058,036.6 | 3 | 2,058,036.6 | 3 | 2,058,036.6 | 3 | 2,058,036.6 | 3 | 2,058,036.6 | 3 |
| | 131 | 2,269,831.9 | 10 | 2,269,831.9 | 11 | 2,269,831.9 | 10 | 2,269,831.9 | 10 | 2,269,831.9 | 11 | 2,269,831.9 | 11 |
| | 141 | 1,954,188.0 | 61 | 1,954,188.0 | 83 | 1,954,085.3 | 103 | 1,953,905.6 | 26 | 1,953,802.9 | 30 | 1,953,010.0 | 6 |
| | 151 | – | – | – | – | – | – | 2,156,705.5 | 173 | 2,156,705.5 | 1629 | – | – |
| brd14051-c12-w90-3000-4000 | 51 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 |
| | 61 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 |
| | 71 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 | 1,331,529.5 | 1 |
| | 81 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 | 1,438,813.6 | 1 |
| | 91 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 2 |
| | 101 | 1,753,429.4 | 1 | 1,753,429.4 | 1 | 1,753,429.4 | 1 | 1,753,429.4 | 1 | 1,753,429.4 | 1 | 1,753,429.4 | 1 |
| | 111 | 1,543,281.4 | 5 | 1,543,281.4 | 6 | 1,543,257.5 | 4 | 1,543,281.4 | 5 | 1,543,281.4 | 6 | 1,543,257.5 | 7 |
| | 121 | 2,057,903.9 | 3 | 2,057,903.9 | 3 | 2,057,854.2 | 3 | 2,057,903.9 | 3 | 2,057,903.9 | 4 | 2,057,854.2 | 7 |
| | 131 | 2,167,283.7 | 4 | 2,167,283.7 | 4 | 2,167,283.7 | 4 | 2,167,283.7 | 3 | 2,167,283.7 | 4 | 2,167,283.7 | 6 |
| | 141 | 2,256,609.3 | 82 | 2,256,609.3 | 85 | 2,256,609.3 | 254 | 2,256,609.3 | 278 | 2,256,609.3 | 319 | 2,256,609.3 | 754 |
| | 151 | 2,057,997.9 | 377 | 2,057,997.9 | 424 | 2,057,997.9 | 674 | 2,057,997.9 | 454 | 2,057,997.9 | 553 | 2,057,997.9 | 1998 |
| brd14051-c12-w120-3000-4000 | 51 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 |
| | 61 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 |
| | 71 | 1,234,244.8 | 7 | 1,234,244.8 | 7 | 1,234,244.8 | 8 | 1,234,244.8 | 7 | 1,234,244.8 | 7 | 1,234,244.8 | 10 |
| | 81 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 1 | 1,334,100.8 | 2 |
| | 91 | 1,446,467.0 | 1 | 1,446,467.0 | 1 | 1,446,467.0 | 1 | 1,446,467.0 | 1 | 1,446,364.0 | 1 | 1,446,364.0 | 1 |
| | 101 | 1,849,633.4 | 2 | 1,849,633.4 | 2 | 1,849,633.4 | 2 | 1,849,633.4 | 3 | 1,849,633.4 | 3 | 1,849,633.4 | 3 |
| | 111 | 1,541,329.2 | 5 | 1,541,329.2 | 5 | 1,541,173.9 | 11 | 1,541,329.2 | 5 | 1,541,329.2 | 6 | 1,541,173.9 | 20 |
| | 121 | 1,850,659.2 | 459 | 1,850,659.2 | 567 | – | – | 1,850,659.2 | 784 | 1,850,659.2 | 2271 | – | – |
| | 131 | 1,859,402.4 | 2 | 1,859,402.4 | 2 | 1,858,820.3 | 7 | 1,859,396.9 | 2 | 1,859,396.9 | 2 | 1,858,820.3 | 16 |
| | 141 | 1,955,890.4 | 234 | 1,955,890.4 | 300 | 1,955,887.9 | 229 | 1,955,890.4 | 354 | 1,955,890.4 | 592 | 1,955,887.9 | 1297 |
| | 151 | 1,954,258.4 | 1763 | 1,954,258.4 | 1133 | – | – | – | – | – | – | – | – |
| d18512-c12-w45-3000-4000 | 51 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 |
| | 61 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 |
| | 71 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 |
| | 81 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 0 | 1,335,804.8 | 1 |
| | 91 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 101 | 1,747,715.0 | 2 | 1,747,715.0 | 2 | 1,747,715.0 | 2 | 1,747,715.0 | 2 | 1,747,715.0 | 2 | 1,747,715.0 | 3 |
| | 111 | 2,059,133.4 | 2 | 2,059,133.4 | 2 | 2,058,835.5 | 2 | 2,059,133.4 | 2 | 2,058,023.3 | 2 | 2,058,023.3 | 2 |
| | 121 | 2,468,755.6 | 1 | 2,468,755.6 | 1 | 2,468,755.6 | 1 | 2,468,755.6 | 1 | 2,468,755.6 | 1 | 2,468,755.6 | 1 |
| | 131 | 2,265,058.6 | 10 | 2,265,058.6 | 16 | 2,265,058.6 | 18 | 2,265,058.6 | 11 | 2,265,058.6 | 12 | 2,265,058.6 | 18 |
| | 141 | 2,568,776.9 | 4 | 2,568,776.9 | 4 | 2,568,776.9 | 4 | 2,568,776.9 | 4 | 2,568,776.9 | 6 | 2,568,776.9 | 10 |
| | 151 | 2,367,157.6 | 2 | 2,367,157.6 | 2 | 2,367,001.0 | 2 | 2,367,157.6 | 2 | 2,367,157.6 | 2 | 2,367,001.0 | 2 |

*Continued on next page*

Table 13 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| d18512-c12-w60-3000-4000 | 51 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 |
| | 61 | 1,129,787.1 | 0 | 1,129,787.1 | 0 | 1,129,787.1 | 0 | 1,129,787.1 | 0 | 1,129,787.1 | 0 | 1,129,787.1 | 0 |
| | 71 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 0 | 1,332,610.1 | 1 |
| | 81 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 |
| | 91 | 1,848,182.2 | 2 | 1,848,182.2 | 2 | 1,746,583.0 | 1 | 1,746,696.7 | 1 | 1,746,696.7 | 1 | 1,746,583.0 | 1 |
| | 101 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 |
| | 111 | 2,161,004.7 | 3 | 2,161,004.7 | 3 | 2,161,004.7 | 3 | 2,161,004.7 | 3 | 2,161,004.7 | 6 | 2,161,004.7 | 8 |
| | 121 | 2,369,642.8 | 2 | 2,369,642.8 | 2 | 2,369,642.8 | 2 | 2,369,642.8 | 2 | 2,369,642.8 | 2 | 2,369,642.8 | 4 |
| | 131 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 2 | 2,163,559.7 | 5 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 2,472,871.7 | 3 | 2,472,871.7 | 3 | 2,472,871.7 | 3 | 2,472,871.7 | 4 | 2,472,871.7 | 4 | 2,472,871.7 | 6 |
| d18512-c12-w75-3000-4000 | 51 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 |
| | 61 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 |
| | 71 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 |
| | 81 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 1 |
| | 91 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 2 |
| | 101 | 1,643,545.7 | 335 | 1,643,545.7 | 360 | 1,643,545.7 | 370 | 1,643,545.7 | 331 | 1,643,545.7 | 338 | 1,643,545.7 | 944 |
| | 111 | 1,854,713.5 | 5 | 1,854,713.5 | 5 | 1,854,713.5 | 6 | 1,854,713.5 | 5 | 1,854,713.5 | 6 | 1,854,713.5 | 12 |
| | 121 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 1 | 2,163,215.4 | 2 | 2,163,215.4 | 2 |
| | 131 | 2,157,788.1 | 2 | 2,157,788.1 | 2 | 2,157,788.1 | 2 | 2,157,788.1 | 2 | 2,157,788.1 | 2 | 2,157,788.1 | 2 |
| | 141 | 2,360,014.5 | 8 | 2,360,014.5 | 8 | 2,360,014.5 | 10 | 2,360,014.5 | 11 | 2,360,014.5 | 11 | 2,360,014.5 | 19 |
| | 151 | 2,264,351.9 | 60 | 2,264,321.0 | 38 | 2,164,029.5 | 34 | 2,264,351.9 | 82 | 2,264,321.0 | 99 | 2,164,029.5 | 104 |
| d18512-c12-w90-3000-4000 | 51 | 1,027,666.9 | 0 | 1,027,666.9 | 1 | 1,027,666.9 | 1 | 1,027,666.9 | 1 | 1,027,666.9 | 1 | 1,026,880.0 | 0 |
| | 61 | 1,230,407.4 | 118 | 1,230,407.4 | 135 | 1,230,401.8 | 132 | 1,230,407.4 | 139 | 1,230,407.4 | 142 | 1,230,401.8 | 177 |
| | 71 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 | 1,229,181.8 | 1 |
| | 81 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 | 1,438,320.1 | 1 |
| | 91 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 |
| | 101 | 1,643,806.7 | 1 | 1,643,806.7 | 1 | 1,643,806.7 | 2 | 1,643,806.7 | 1 | 1,643,806.7 | 2 | 1,643,806.7 | 2 |
| | 111 | 2,051,359.9 | 2 | 2,051,359.9 | 2 | 2,051,359.9 | 2 | 2,051,359.9 | 3 | 2,051,359.9 | 3 | 2,051,359.9 | 3 |
| | 121 | 2,059,222.6 | 2 | 2,059,222.6 | 2 | 2,059,222.6 | 2 | 2,059,222.6 | 3 | 2,059,222.6 | 2 | 2,059,222.6 | 3 |
| | 131 | 2,056,202.2 | 4 | 2,056,202.2 | 4 | 2,056,202.2 | 5 | 2,056,202.2 | 4 | 2,056,202.2 | 5 | 2,056,202.2 | 10 |
| | 141 | 1,956,239.3 | 17 | 1,956,239.3 | 20 | 1,956,239.3 | 12 | 1,956,239.3 | 12 | 1,956,239.3 | 13 | 1,956,239.3 | 29 |
| | 151 | 2,468,195.7 | 36 | 2,468,195.7 | 31 | 2,468,195.7 | 41 | 2,468,195.7 | 41 | 2,468,195.7 | 49 | 2,468,195.7 | 355 |
| d18512-c12-w120-3000-4000 | 51 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 |
| | 61 | 1,131,742.3 | 0 | 1,131,742.3 | 0 | 1,131,742.3 | 0 | 1,131,742.3 | 0 | 1,131,742.3 | 0 | 1,131,742.3 | 1 |
| | 71 | 1,331,635.4 | 2 | 1,331,635.4 | 3 | 1,331,635.4 | 3 | 1,331,635.4 | 3 | 1,331,635.4 | 3 | 1,331,635.4 | 5 |
| | 81 | 1,333,899.8 | 2 | 1,333,899.8 | 2 | 1,333,708.2 | 2 | 1,333,899.8 | 3 | 1,333,899.8 | 3 | 1,333,708.2 | 3 |
| | 91 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 3 |
| | 101 | 1,646,093.2 | 605 | 1,646,093.2 | 648 | 1,646,093.2 | 1269 | 1,646,093.2 | 744 | 1,646,093.2 | 1720 | – | – |
| | 111 | 1,750,119.2 | 3 | 1,750,119.2 | 3 | 1,750,119.2 | 3 | 1,750,119.2 | 3 | 1,750,119.2 | 3 | 1,750,119.2 | 4 |
| | 121 | 2,160,462.5 | 3 | 2,160,462.5 | 3 | 2,160,462.5 | 3 | 2,160,462.5 | 3 | 2,160,462.5 | 3 | 2,160,462.5 | 5 |
| | 131 | – | – | – | – | 1,751,480.9 | 2240 | – | – | 1,751,480.9 | 383 | 1,751,480.9 | 1862 |
| | 141 | 1,956,216.9 | 8 | 1,956,216.9 | 9 | 1,956,216.9 | 18 | 1,956,216.9 | 12 | 1,956,216.9 | 10 | 1,956,216.9 | 48 |
| | 151 | 2,160,696.7 | 25 | 2,160,696.7 | 26 | 2,160,679.1 | 35 | 2,160,679.1 | 31 | 2,160,679.1 | 30 | 2,160,679.1 | 112 |
| fn14461-c12-w45-3000-4000 | 51 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 |
| | 61 | 1,219,460.2 | 1 | 1,219,460.2 | 1 | 1,219,460.2 | 1 | 1,219,460.2 | 1 | 1,219,460.2 | 1 | 1,219,460.2 | 1 |
| | 71 | 917,899.2 | 4 | 917,899.2 | 4 | 917,899.2 | 4 | 917,899.2 | 4 | 917,899.2 | 4 | 917,899.2 | 5 |
| | 81 | 921,776.0 | 1 | 921,776.0 | 1 | 921,776.0 | 1 | 921,776.0 | 1 | 921,776.0 | 1 | 921,776.0 | 2 |
| | 91 | 1,121,826.0 | 47 | 1,121,826.0 | 39 | 1,121,826.0 | 82 | 1,121,826.0 | 112 | 1,121,826.0 | 157 | 1,121,826.0 | 377 |
| | 101 | 1,328,280.3 | 19 | 1,328,280.3 | 19 | 1,328,280.3 | 26 | 1,328,280.3 | 22 | 1,328,280.3 | 25 | 1,328,280.3 | 49 |
| | 111 | 1,429,157.8 | 10 | 1,429,157.8 | 10 | 1,429,157.8 | 11 | 1,429,157.8 | 10 | 1,429,157.8 | 12 | 1,429,157.8 | 15 |
| | 121 | 1,532,096.5 | 38 | 1,532,096.5 | 40 | 1,532,096.5 | 47 | 1,532,096.5 | 54 | 1,532,096.5 | 62 | 1,532,096.5 | 256 |
| | 131 | 1,640,564.3 | 56 | 1,640,564.3 | 78 | 1,640,564.3 | 80 | 1,640,564.3 | 593 | 1,640,564.3 | 420 | 1,639,942.1 | 267 |
| | 141 | 1,741,820.5 | 35 | 1,741,820.5 | 31 | 1,741,820.5 | 66 | 1,741,820.5 | 33 | 1,741,820.5 | 65 | 1,741,820.5 | 203 |
| | 151 | 1,739,328.3 | 18 | 1,739,328.3 | 23 | 1,739,184.9 | 34 | 1,739,328.3 | 14 | 1,739,328.3 | 45 | 1,739,184.9 | 226 |

*Continued on next page*

Table 13 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| fnl4461-c12-w60-3000-4000 | 51 | 716,105.5 | 1 | 716,105.5 | 1 | 716,105.5 | 2 | 716,105.5 | 1 | 716,105.5 | 2 | 716,105.5 | 2 |
| | 61 | 816,039.6 | 1 | 816,039.6 | 1 | 816,039.6 | 1 | 816,039.6 | 1 | 816,039.6 | 1 | 816,039.6 | 1 |
| | 71 | 917,994.9 | 16 | 917,783.3 | 9 | 917,783.3 | 11 | 917,994.9 | 18 | 917,783.3 | 10 | 917,783.3 | 25 |
| | 81 | 923,301.5 | 2 | 923,301.5 | 2 | 923,301.5 | 3 | 923,301.5 | 3 | 923,301.5 | 3 | 923,301.5 | 4 |
| | 91 | 1,021,784.4 | 2 | 1,021,784.4 | 3 | 1,021,784.4 | 2 | 1,021,784.4 | 2 | 1,021,784.4 | 3 | 1,021,784.4 | 5 |
| | 101 | 1,127,538.4 | 7 | 1,127,538.4 | 8 | 1,127,517.7 | 11 | 1,127,538.4 | 10 | 1,127,517.7 | 18 | 1,127,280.6 | 9 |
| | 111 | 1,329,806.8 | 11 | 1,329,806.8 | 11 | 1,329,806.8 | 13 | 1,329,806.8 | 13 | 1,329,806.8 | 17 | 1,329,806.8 | 23 |
| | 121 | 1,331,083.2 | 100 | 1,331,083.2 | 106 | 1,331,083.2 | 176 | 1,331,083.2 | 151 | 1,331,083.2 | 188 | 1,331,083.2 | 441 |
| | 131 | 1,540,466.7 | 32 | 1,540,466.7 | 33 | 1,539,715.0 | 52 | 1,540,466.7 | 37 | 1,540,466.7 | 32 | 1,539,715.0 | 172 |
| | 141 | 1,537,216.8 | 202 | 1,537,216.8 | 209 | 1,537,216.8 | 258 | 1,537,216.8 | 272 | 1,537,216.8 | 288 | 1,537,210.0 | 976 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w75-3000-4000 | 51 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 |
| | 61 | 816,166.4 | 1 | 816,166.4 | 1 | 816,166.4 | 1 | 816,166.4 | 1 | 816,166.4 | 1 | 816,166.4 | 2 |
| | 71 | 820,235.5 | 3 | 820,235.5 | 3 | 819,840.5 | 4 | 819,747.4 | 3 | 819,747.4 | 3 | 819,747.4 | 12 |
| | 81 | 920,521.0 | 3 | 920,521.0 | 3 | 920,521.0 | 3 | 920,521.0 | 3 | 920,521.0 | 4 | 920,521.0 | 7 |
| | 91 | 1,023,337.2 | 4 | 1,023,337.2 | 4 | 1,023,337.2 | 4 | 1,023,337.2 | 4 | 1,023,337.2 | 4 | 1,023,337.2 | 7 |
| | 101 | 1,226,890.7 | 42 | 1,226,890.7 | 43 | 1,226,890.7 | 55 | 1,226,890.7 | 45 | 1,226,890.7 | 70 | 1,226,890.7 | 109 |
| | 111 | 1,228,522.4 | 72 | 1,228,522.4 | 93 | 1,228,522.4 | 207 | 1,228,522.4 | 104 | 1,228,522.4 | 106 | 1,228,522.4 | 364 |
| | 121 | 1,332,884.0 | 96 | 1,332,884.0 | 78 | 1,332,884.0 | 117 | 1,332,884.0 | 58 | 1,332,884.0 | 106 | 1,332,884.0 | 243 |
| | 131 | 1,435,090.9 | 322 | 1,435,090.9 | 299 | 1,435,090.9 | 274 | 1,435,090.9 | 293 | 1,435,090.9 | 393 | 1,435,090.9 | 734 |
| | 141 | 1,637,416.5 | 113 | 1,637,416.5 | 103 | 1,637,355.8 | 214 | 1,637,416.5 | 128 | 1,637,416.5 | 134 | 1,539,465.1 | 137 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w90-3000-4000 | 51 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 1 |
| | 61 | 817,581.5 | 110 | 817,581.5 | 111 | 817,581.5 | 34 | 817,581.5 | 104 | 817,581.5 | 126 | 817,581.5 | 147 |
| | 71 | 815,166.6 | 3 | 815,166.6 | 3 | 815,166.6 | 3 | 815,166.6 | 3 | 815,166.6 | 3 | 815,166.6 | 6 |
| | 81 | 921,919.7 | 5 | 921,919.7 | 6 | 921,919.7 | 7 | 921,919.7 | 6 | 921,919.7 | 6 | 921,919.7 | 12 |
| | 91 | 1,023,278.7 | 22 | 1,023,278.7 | 39 | 1,023,278.7 | 44 | 1,023,278.7 | 34 | 1,023,278.7 | 33 | 1,023,278.7 | 88 |
| | 101 | 1,225,880.6 | 458 | 1,225,880.6 | 494 | 1,225,798.5 | 566 | 1,225,798.5 | 246 | 1,225,798.5 | 541 | 1,225,798.5 | 2742 |
| | 111 | 1,227,780.0 | 96 | 1,227,780.0 | 91 | 1,227,780.0 | 235 | 1,227,780.0 | 231 | 1,227,780.0 | 493 | 1,227,780.0 | 1414 |
| | 121 | 1,431,531.6 | 668 | 1,431,531.6 | 713 | 1,431,465.5 | 1006 | 1,335,264.4 | 459 | 1,335,264.4 | 582 | 1,335,264.4 | 1201 |
| | 131 | 1,232,944.5 | 2719 | 1,232,944.5 | 2334 | – | – | 1,232,944.5 | 3251 | 1,232,944.5 | 3202 | – | – |
| | 141 | 1,435,454.2 | 1765 | 1,435,454.2 | 1694 | – | – | 1,435,454.2 | 2473 | 1,435,447.4 | 3198 | 1,435,163.9 | 1900 |
| | 151 | – | – | – | – | 1,538,548.4 | 183 | – | – | – | – | 1,538,548.4 | 754 |
| fnl4461-c12-w120-3000-4000 | 51 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 3 | 610,649.0 | 4 |
| | 61 | 714,165.2 | 9 | 714,165.2 | 13 | 714,165.2 | 12 | 714,165.2 | 10 | 714,165.2 | 12 | 714,165.2 | 27 |
| | 71 | 715,962.6 | 50 | 715,962.6 | 71 | 715,962.6 | 58 | 715,962.6 | 84 | 715,962.6 | 87 | 715,653.2 | 39 |
| | 81 | 819,625.6 | 75 | 819,625.6 | 55 | 819,625.6 | 196 | 819,625.6 | 100 | 819,625.6 | 162 | 819,625.6 | 479 |
| | 91 | 819,942.7 | 232 | 819,942.7 | 347 | 819,942.7 | 563 | 819,942.7 | 324 | 819,942.7 | 564 | 819,942.7 | 2944 |
| | 101 | 1,125,784.0 | 1154 | 1,125,784.0 | 1959 | 1,125,678.3 | 533 | 1,125,784.0 | 3341 | – | – | 1,028,328.9 | 464 |
| | 111 | 1,026,705.6 | 347 | 1,026,705.6 | 294 | 1,026,705.6 | 813 | 1,026,705.6 | 538 | 1,026,705.6 | 843 | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | 1,131,620.9 | 2415 | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | 1,337,686.1 | 2037 | – | – | – | – | – | – |
| nrw1379-c12-w45-3000-4000 | 51 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 |
| | 61 | 1,018,665.0 | 2 | 1,018,665.0 | 3 | 1,018,665.0 | 3 | 1,018,665.0 | 3 | 1,018,665.0 | 3 | 1,018,665.0 | 5 |
| | 71 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 |
| | 81 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 2 | 1,231,183.1 | 2 |
| | 91 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 | 1,427,514.6 | 2 |
| | 101 | 1,330,089.2 | 5 | 1,330,089.2 | 5 | 1,330,089.2 | 8 | 1,330,089.2 | 5 | 1,330,089.2 | 5 | 1,330,089.2 | 19 |
| | 111 | 1,534,358.5 | 10 | 1,534,358.5 | 11 | 1,534,358.5 | 12 | 1,534,358.5 | 15 | 1,534,358.5 | 21 | 1,534,358.5 | 26 |
| | 121 | 1,638,779.9 | 67 | 1,638,779.9 | 73 | 1,638,779.9 | 95 | 1,638,779.9 | 98 | 1,638,779.9 | 105 | 1,638,779.9 | 143 |
| | 131 | 1,843,353.2 | 29 | 1,843,353.2 | 31 | 1,843,113.2 | 73 | 1,843,353.2 | 51 | 1,843,353.2 | 55 | 1,842,800.1 | 104 |
| | 141 | 2,145,897.9 | 303 | 2,145,897.9 | 425 | 2,145,703.1 | 234 | 2,145,897.9 | 299 | 2,145,703.1 | 238 | 2,145,703.1 | 633 |
| | 151 | 2,149,698.6 | 12 | 2,149,698.6 | 13 | 2,149,698.6 | 6 | 2,149,698.6 | 8 | 2,149,698.6 | 8 | 2,149,698.6 | 9 |

*Continued on next page*

Table 13 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| nrw1379-c12-w60-3000-4000 | 51 | 814,734.2 | 1 | 814,734.2 | 1 | 814,734.2 | 1 | 714,362.0 | 1 | 714,362.0 | 1 | 714,362.0 | 1 |
| | 61 | 818,786.0 | 1 | 818,786.0 | 1 | 818,786.0 | 1 | 818,786.0 | 1 | 818,786.0 | 1 | 818,786.0 | 2 |
| | 71 | 1,122,140.0 | 1 | 1,122,140.0 | 1 | 1,122,140.0 | 1 | 1,122,140.0 | 1 | 1,122,140.0 | 1 | 1,122,140.0 | 1 |
| | 81 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 | 1,226,727.0 | 1 |
| | 91 | 1,228,112.7 | 5 | 1,228,112.7 | 5 | 1,228,112.7 | 4 | 1,228,112.7 | 7 | 1,228,112.7 | 7 | 1,228,112.7 | 9 |
| | 101 | 1,430,389.7 | 5 | 1,430,389.7 | 5 | 1,430,389.7 | 6 | 1,430,389.7 | 5 | 1,430,389.7 | 6 | 1,430,389.7 | 6 |
| | 111 | 1,635,211.5 | 7 | 1,635,211.5 | 8 | 1,635,211.5 | 10 | 1,635,211.5 | 9 | 1,635,211.5 | 10 | 1,635,211.5 | 18 |
| | 121 | 1,540,224.8 | 128 | 1,540,224.8 | 148 | 1,539,721.1 | 62 | 1,539,721.1 | 53 | 1,539,721.1 | 84 | 1,539,721.1 | 198 |
| | 131 | 1,636,743.3 | 8 | 1,636,743.3 | 9 | 1,636,743.3 | 13 | 1,636,743.3 | 9 | 1,636,743.3 | 11 | 1,636,743.3 | 20 |
| | 141 | 1,949,189.9 | 177 | 1,949,189.9 | 111 | 1,948,011.5 | 31 | 1,949,189.9 | 71 | 1,948,011.5 | 27 | 1,947,072.4 | 92 |
| | 151 | 1,746,152.4 | 200 | 1,746,152.4 | 225 | 1,745,101.0 | 73 | 1,746,152.4 | 206 | 1,745,982.3 | 243 | 1,745,101.0 | 285 |
| nrw1379-c12-w75-3000-4000 | 51 | 919,078.2 | 0 | 919,078.2 | 0 | 919,078.2 | 0 | 919,078.2 | 0 | 919,078.2 | 0 | 919,078.2 | 0 |
| | 61 | 1,019,550.8 | 2 | 1,019,550.8 | 2 | 1,019,550.8 | 2 | 1,019,550.8 | 2 | 1,019,550.8 | 2 | 1,019,513.3 | 1 |
| | 71 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 | 1,021,418.9 | 1 |
| | 81 | 1,124,893.0 | 2 | 1,124,893.0 | 2 | 1,124,893.0 | 2 | 1,025,898.7 | 1 | 1,025,898.7 | 1 | 1,025,898.7 | 2 |
| | 91 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 5 |
| | 101 | 1,227,186.1 | 3 | 1,226,401.5 | 4 | 1,226,401.5 | 6 | 1,227,186.1 | 8 | 1,226,401.5 | 7 | 1,226,401.5 | 12 |
| | 111 | 1,532,845.3 | 5 | 1,532,845.3 | 5 | 1,532,845.3 | 6 | 1,532,845.3 | 4 | 1,532,845.3 | 5 | 1,532,845.3 | 13 |
| | 121 | 1,530,766.3 | 58 | 1,530,766.3 | 70 | 1,530,766.3 | 61 | 1,530,766.3 | 46 | 1,530,766.3 | 90 | 1,530,766.3 | 197 |
| | 131 | 1,637,116.5 | 90 | 1,637,116.5 | 89 | 1,541,706.1 | 5 | 1,637,116.5 | 99 | 1,637,116.5 | 97 | 1,541,706.1 | 7 |
| | 141 | 1,740,531.1 | 50 | 1,740,531.1 | 51 | 1,740,531.1 | 65 | 1,740,531.1 | 77 | 1,740,531.1 | 75 | 1,740,531.1 | 199 |
| | 151 | 1,743,477.5 | 36 | 1,743,477.5 | 44 | 1,743,477.5 | 54 | 1,743,477.5 | 60 | 1,743,031.4 | 9 | 1,743,031.4 | 12 |
| nrw1379-c12-w90-3000-4000 | 51 | 815,844.7 | 1 | 815,844.7 | 0 | 815,844.7 | 1 | 815,844.7 | 0 | 815,844.7 | 1 | 815,844.7 | 1 |
| | 61 | 1,222,464.7 | 0 | 1,222,464.7 | 0 | 1,222,464.7 | 0 | 1,222,464.7 | 0 | 1,222,464.7 | 0 | 1,222,464.7 | 1 |
| | 71 | 1,021,298.6 | 2 | 1,021,298.6 | 2 | 1,021,298.6 | 3 | 1,021,298.6 | 4 | 1,021,298.6 | 7 | 1,021,298.6 | 27 |
| | 81 | 1,023,959.7 | 3 | 1,023,959.7 | 6 | 1,023,959.7 | 9 | 1,023,959.7 | 4 | 1,023,959.7 | 9 | 1,023,959.7 | 70 |
| | 91 | 1,323,961.0 | 9 | 1,323,961.0 | 9 | 1,323,961.0 | 13 | 1,323,961.0 | 11 | 1,323,961.0 | 13 | 1,323,626.8 | 36 |
| | 101 | 1,428,047.9 | 5 | 1,428,047.9 | 6 | 1,428,047.9 | 6 | 1,428,047.9 | 6 | 1,428,047.9 | 7 | 1,428,047.9 | 14 |
| | 111 | 1,230,349.7 | 4 | 1,230,349.7 | 5 | 1,230,349.7 | 5 | 1,230,349.7 | 6 | 1,230,349.7 | 6 | 1,230,349.7 | 8 |
| | 121 | 1,334,385.3 | 6 | 1,334,043.7 | 7 | 1,334,043.7 | 8 | 1,334,385.3 | 7 | 1,334,043.7 | 11 | 1,334,043.7 | 16 |
| | 131 | 1,335,053.5 | 211 | 1,335,053.5 | 430 | 1,335,053.5 | 625 | 1,335,053.5 | 374 | 1,335,053.5 | 666 | 1,334,845.5 | 1090 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,639,217.5 | 168 | 1,639,217.5 | 200 | 1,639,006.0 | 277 | 1,639,006.0 | 255 | 1,639,006.0 | 336 | 1,639,006.0 | 498 |
| nrw1379-c12-w120-3000-4000 | 51 | 716,006.6 | 1 | 716,006.6 | 1 | 716,006.6 | 1 | 716,006.6 | 2 | 716,006.6 | 2 | 716,006.6 | 5 |
| | 61 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 | 919,036.9 | 1 |
| | 71 | 1,023,069.7 | 3 | 1,023,069.7 | 3 | 1,023,069.7 | 3 | 1,023,069.7 | 2 | 1,023,069.7 | 3 | 1,023,069.7 | 4 |
| | 81 | 1,024,248.7 | 5 | 1,024,248.7 | 5 | 1,024,248.7 | 7 | 1,024,248.7 | 5 | 1,024,248.7 | 8 | 1,024,248.7 | 12 |
| | 91 | 1,024,819.0 | 13 | 1,024,819.0 | 13 | 1,024,769.2 | 13 | 1,024,819.0 | 12 | 1,024,702.1 | 12 | 1,024,702.1 | 31 |
| | 101 | 1,230,865.2 | 69 | 1,230,865.2 | 68 | 1,230,865.2 | 112 | 1,230,865.2 | 60 | 1,230,865.2 | 90 | 1,230,640.6 | 97 |
| | 111 | 1,233,672.0 | 256 | 1,233,672.0 | 185 | 1,233,672.0 | 312 | 1,233,672.0 | 407 | 1,233,672.0 | 229 | 1,233,358.2 | 449 |
| | 121 | 1,333,922.3 | 323 | 1,333,922.3 | 882 | – | – | 1,333,922.3 | 435 | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | 1,639,846.4 | 21 | 1,639,846.4 | 21 | 1,639,846.4 | 45 | 1,639,846.4 | 27 | 1,639,846.4 | 50 | 1,639,846.4 | 158 |
| | 151 | – | – | – | – | – | – | – | – | – | – | 1,538,578.5 | 804 |
| Solved | | | 276 | | 276 | | 273 | | 275 | | 273 | | 270 |
| ∅ Time | | | 111.0 | | 120.2 | | 122.3 | | 123.0 | | 139.3 | | 183.8 |

**Table 14: Detailed computational results $\delta = 10$ and with three stacks**

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w15-500-1000 | 51 | 704,424.6 | 1 | 704,424.6 | 1 | 704,424.6 | 1 | 704,424.6 | 1 | 704,424.6 | 1 | 704,424.6 | 2 |
| | 61 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 |
| | 71 | 905,856.9 | 4 | 905,856.9 | 3 | 905,856.9 | 4 | 905,856.9 | 4 | 905,856.9 | 4 | 905,856.9 | 7 |
| | 81 | 1,307,742.8 | 3 | 1,307,742.8 | 3 | 1,307,742.8 | 3 | 1,307,742.8 | 3 | 1,307,742.8 | 4 | 1,307,742.8 | 7 |
| | 91 | 1,308,213.1 | 67 | 1,308,213.1 | 66 | 1,308,213.1 | 68 | 1,308,213.1 | 67 | 1,308,213.1 | 69 | 1,308,213.1 | 127 |
| | 101 | 1,510,445.5 | 3 | 1,510,445.5 | 2 | 1,510,445.5 | 3 | 1,510,445.5 | 2 | 1,510,445.5 | 3 | 1,510,445.5 | 5 |
| | 111 | 1,712,063.4 | 1 | 1,712,063.4 | 1 | 1,712,063.4 | 1 | 1,712,063.4 | 1 | 1,712,063.4 | 1 | 1,712,063.4 | 2 |
| | 121 | 1,511,626.6 | 59 | 1,511,626.6 | 58 | 1,511,626.6 | 48 | 1,511,626.6 | 80 | 1,511,626.6 | 85 | 1,511,626.6 | 123 |
| | 131 | 1,711,773.3 | 80 | 1,711,773.3 | 81 | 1,711,773.3 | 81 | 1,711,773.3 | 85 | 1,711,773.3 | 96 | 1,711,773.3 | 144 |
| | 141 | 1,912,996.5 | 11 | 1,912,996.5 | 11 | 1,912,996.5 | 12 | 1,912,996.5 | 11 | 1,912,996.5 | 14 | 1,912,996.5 | 18 |
| | 151 | 1,915,366.2 | 44 | 1,915,366.2 | 50 | 1,915,366.2 | 63 | 1,915,366.2 | 52 | 1,915,366.2 | 63 | 1,915,355.3 | 118 |
| a280-c12-w15-1000-1200 | 51 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 |
| | 61 | 804,876.2 | 0 | 804,876.2 | 0 | 804,876.2 | 0 | 804,876.2 | 0 | 804,876.2 | 0 | 804,876.2 | 1 |
| | 71 | 906,371.8 | 2 | 906,371.8 | 2 | 906,371.8 | 2 | 906,371.8 | 2 | 906,371.8 | 2 | 906,371.8 | 4 |
| | 81 | 1,207,356.1 | 2 | 1,207,356.1 | 2 | 1,207,356.1 | 2 | 1,207,356.1 | 2 | 1,207,356.1 | 2 | 1,207,356.1 | 3 |
| | 91 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 5 | 1,208,755.0 | 9 |
| | 101 | 1,109,508.7 | 2 | 1,109,508.7 | 2 | 1,109,508.7 | 2 | 1,109,508.7 | 2 | 1,109,508.7 | 2 | 1,109,508.7 | 3 |
| | 111 | 1,210,475.6 | 35 | 1,210,475.6 | 35 | 1,210,475.6 | 56 | 1,210,475.6 | 80 | 1,210,475.6 | 113 | 1,210,475.6 | 198 |
| | 121 | 1,109,755.8 | 143 | 1,109,755.8 | 148 | 1,109,755.8 | 134 | 1,109,755.8 | 117 | 1,109,720.5 | 139 | 1,109,720.5 | 233 |
| | 131 | 1,412,143.3 | 359 | 1,412,143.3 | 373 | 1,412,143.3 | 269 | 1,412,143.3 | 346 | 1,411,991.2 | 492 | 1,411,991.2 | 955 |
| | 141 | 1,712,926.9 | 42 | 1,712,926.9 | 43 | 1,712,926.9 | 59 | 1,712,926.9 | 66 | 1,712,926.9 | 102 | 1,712,926.9 | 121 |
| | 151 | 1,614,304.8 | 992 | 1,614,304.8 | 1022 | 1,614,304.8 | 1099 | 1,614,304.8 | 978 | 1,614,304.8 | 1289 | 1,614,139.6 | 872 |
| a280-c12-w15-1500-2000 | 51 | 503,723.8 | 2 | 503,723.8 | 2 | 503,723.8 | 2 | 503,723.8 | 2 | 503,723.8 | 2 | 503,723.8 | 3 |
| | 61 | 604,739.9 | 3 | 604,739.9 | 3 | 604,739.9 | 3 | 604,739.9 | 3 | 604,739.9 | 3 | 604,739.9 | 5 |
| | 71 | 705,299.2 | 20 | 705,299.2 | 21 | 705,299.2 | 21 | 705,299.2 | 22 | 705,299.2 | 27 | 705,299.2 | 53 |
| | 81 | 707,185.0 | 5 | 707,185.0 | 6 | 707,185.0 | 6 | 707,185.0 | 5 | 707,185.0 | 6 | 707,185.0 | 10 |
| | 91 | 807,899.7 | 139 | 807,899.7 | 147 | 807,899.7 | 144 | 807,899.7 | 183 | 807,899.7 | 148 | 807,899.7 | 375 |
| | 101 | 907,953.4 | 303 | 907,953.4 | 320 | 907,953.4 | 325 | 907,953.4 | 395 | 907,953.4 | 491 | 907,953.4 | 602 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-500-1000 | 51 | 604,267.6 | 1 | 604,267.6 | 1 | 604,267.6 | 1 | 604,267.6 | 1 | 604,267.6 | 1 | 604,267.6 | 1 |
| | 61 | 705,254.5 | 13 | 705,254.5 | 14 | 705,254.5 | 20 | 705,254.5 | 14 | 705,254.5 | 14 | 705,254.5 | 46 |
| | 71 | 806,201.0 | 4 | 806,201.0 | 4 | 806,201.0 | 4 | 806,201.0 | 4 | 806,201.0 | 4 | 806,168.4 | 7 |
| | 81 | 1,106,833.7 | 15 | 1,106,833.7 | 15 | 1,106,833.7 | 18 | 1,106,833.7 | 15 | 1,106,833.7 | 15 | 1,106,833.7 | 63 |
| | 91 | 1,207,869.8 | 12 | 1,207,869.8 | 13 | 1,207,869.8 | 18 | 1,207,869.8 | 13 | 1,207,869.8 | 16 | 1,207,860.4 | 33 |
| | 101 | 1,209,217.8 | 68 | 1,209,217.8 | 71 | 1,209,217.8 | 80 | 1,209,217.8 | 69 | 1,209,217.8 | 74 | 1,209,193.4 | 106 |
| | 111 | 1,309,901.6 | 1266 | 1,309,901.6 | 1238 | 1,309,901.6 | 1576 | 1,309,901.6 | 1532 | 1,309,901.6 | 1491 | 1,309,885.7 | 3277 |
| | 121 | 1,410,851.4 | 1058 | 1,410,851.4 | 1077 | 1,410,851.4 | 1478 | 1,410,851.4 | 1163 | 1,410,851.4 | 1378 | – | – |
| | 131 | 1,411,009.4 | 2367 | 1,411,009.4 | 1701 | 1,411,009.4 | 3233 | 1,411,009.4 | 2569 | 1,411,009.4 | 2158 | – | – |
| | 141 | 1,612,379.8 | 1521 | 1,612,379.8 | 1579 | 1,612,379.8 | 2536 | 1,612,379.8 | 1786 | 1,612,379.8 | 2309 | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-1000-1200 | 51 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 |
| | 61 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 |
| | 71 | 805,768.5 | 11 | 805,768.5 | 11 | 805,768.5 | 15 | 805,768.5 | 11 | 805,768.5 | 13 | 805,768.5 | 29 |
| | 81 | 1,006,722.9 | 1 | 1,006,722.9 | 1 | 1,006,722.9 | 2 | 1,006,722.9 | 1 | 1,006,722.9 | 1 | 1,006,722.9 | 2 |
| | 91 | 1,107,905.3 | 26 | 1,107,905.3 | 27 | 1,107,905.3 | 35 | 1,107,905.3 | 26 | 1,107,905.3 | 42 | 1,107,905.3 | 29 |
| | 101 | 1,108,956.7 | 5 | 1,108,956.7 | 5 | 1,108,956.7 | 5 | 1,108,956.7 | 5 | 1,108,956.7 | 5 | 1,108,956.7 | 7 |
| | 111 | 1,210,549.5 | 11 | 1,210,549.5 | 12 | 1,210,549.5 | 84 | 1,210,549.5 | 12 | 1,210,549.5 | 33 | 1,210,549.5 | 126 |
| | 121 | 1,410,771.7 | 128 | 1,410,771.7 | 135 | 1,410,771.7 | 177 | 1,410,771.7 | 170 | 1,410,771.7 | 131 | 1,410,771.7 | 390 |
| | 131 | 1,209,901.1 | 1121 | 1,209,901.1 | 1148 | 1,209,901.1 | 1444 | 1,209,901.1 | 1242 | 1,209,901.1 | 1061 | 1,209,882.9 | 2207 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |

*Continued on next page*

Table 14 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w30-1500-2000 | 51 | 503,573.6 | 29 | 503,573.6 | 32 | 503,573.6 | 38 | 503,573.6 | 38 | 503,573.5 | 43 | 503,573.5 | 120 |
| | 61 | 504,529.7 | 6 | 504,529.7 | 6 | 504,529.7 | 10 | 504,529.7 | 6 | 504,529.7 | 7 | 504,529.7 | 90 |
| | 71 | 705,267.0 | 231 | 705,267.0 | 241 | 606,303.5 | 15 | 705,227.6 | 183 | 606,267.7 | 130 | 606,267.7 | 513 |
| | 81 | 706,280.4 | 91 | 706,280.4 | 91 | 706,280.4 | 164 | 706,280.4 | 207 | 706,280.4 | 386 | 706,276.7 | 887 |
| | 91 | 706,839.8 | 1083 | 706,839.8 | 1108 | 706,839.8 | 1432 | 706,839.8 | 1213 | 706,839.8 | 1538 | – | – |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | 809,136.4 | 2273 | 809,136.4 | 2294 | 809,090.6 | 1118 | 809,136.4 | 1927 | 809,136.4 | 2458 | 808,634.6 | 55 |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-500-1000 | 51 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 2 | 604,119.7 | 3 |
| | 61 | 704,162.2 | 142 | 704,162.2 | 146 | 704,162.2 | 160 | 704,162.2 | 147 | 704,162.2 | 153 | 704,162.2 | 304 |
| | 71 | 805,137.9 | 20 | 805,137.9 | 21 | 805,137.9 | 27 | 805,137.9 | 26 | 805,137.9 | 24 | 805,104.4 | 47 |
| | 81 | 906,422.5 | 22 | 906,422.5 | 23 | 906,422.5 | 30 | 906,422.5 | 26 | 906,398.3 | 19 | 906,398.3 | 45 |
| | 91 | 907,207.0 | 30 | 907,207.0 | 31 | 907,207.0 | 39 | 907,207.0 | 29 | 907,207.0 | 35 | 907,205.8 | 104 |
| | 101 | 1,208,901.9 | 2211 | 1,208,901.9 | 2266 | – | – | 1,208,901.9 | 1660 | 1,208,901.9 | 1867 | 1,208,774.6 | 849 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1000-1200 | 51 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 1 | 703,858.9 | 2 |
| | 61 | 603,753.8 | 4 | 603,753.8 | 4 | 603,753.8 | 4 | 603,753.8 | 3 | 603,753.8 | 4 | 603,749.3 | 7 |
| | 71 | 704,932.2 | 6 | 704,932.2 | 7 | 704,932.2 | 7 | 704,932.2 | 8 | 704,932.2 | 8 | 704,932.2 | 19 |
| | 81 | 806,566.9 | 256 | 806,566.9 | 269 | 806,566.9 | 216 | 806,566.9 | 236 | 806,566.9 | 273 | 806,566.9 | 475 |
| | 91 | 907,789.8 | 295 | 907,789.8 | 306 | 907,789.8 | 467 | 907,789.8 | 376 | 907,789.8 | 407 | 907,759.2 | 337 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | 1,109,594.0 | 2010 | 1,109,594.0 | 2142 | 1,109,594.0 | 2247 | 1,109,594.0 | 2758 | 1,109,594.0 | 2304 | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1500-2000 | 51 | 503,493.1 | 2 | 503,493.1 | 2 | 503,493.1 | 2 | 503,493.1 | 2 | 503,493.1 | 3 | 503,493.1 | 9 |
| | 61 | 604,088.7 | 44 | 604,088.7 | 47 | 604,088.7 | 44 | 604,088.7 | 47 | 604,088.7 | 54 | 604,088.7 | 204 |
| | 71 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 81 | 606,593.4 | 28 | 606,593.4 | 31 | 606,593.4 | 37 | 606,593.4 | 35 | 606,593.4 | 38 | 606,593.4 | 131 |
| | 91 | 806,608.9 | 378 | 806,608.9 | 396 | 806,608.9 | 468 | 806,608.9 | 421 | 806,608.9 | 480 | 706,945.3 | 47 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| brd14051-c12-w45-3000-4000 | 51 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 |
| | 61 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| | 71 | 1,436,904.4 | 0 | 1,436,904.4 | 0 | 1,436,904.4 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 |
| | 81 | 1,336,264.6 | 13 | 1,336,264.6 | 13 | 1,336,264.6 | 13 | 1,336,264.6 | 13 | 1,336,264.6 | 14 | 1,336,264.6 | 18 |
| | 91 | 1,852,594.6 | 1 | 1,852,594.6 | 1 | 1,852,594.6 | 1 | 1,852,594.6 | 1 | 1,852,594.6 | 1 | 1,852,594.6 | 1 |
| | 101 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 |
| | 111 | 2,052,469.4 | 2 | 2,052,469.4 | 2 | 2,052,469.4 | 2 | 2,052,469.4 | 2 | 2,052,469.4 | 3 | 2,052,469.4 | 3 |
| | 121 | 2,057,345.9 | 176 | 2,057,345.9 | 179 | 2,057,345.9 | 213 | 2,057,345.9 | 145 | 2,057,345.9 | 153 | 2,057,345.9 | 450 |
| | 131 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 |
| | 141 | 2,469,518.3 | 2 | 2,469,518.3 | 2 | 2,468,928.4 | 2 | 2,469,518.3 | 3 | 2,469,518.3 | 3 | 2,468,928.4 | 5 |
| | 151 | 2,570,792.6 | 5 | 2,570,792.6 | 5 | 2,570,792.6 | 6 | 2,570,792.6 | 6 | 2,570,792.6 | 5 | 2,570,792.6 | 9 |

*Continued on next page*

Table 14 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| brd14051-c12-w60-3000-4000 | 51 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 |
| | 61 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 |
| | 71 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 |
| | 81 | 1,639,313.8 | 0 | 1,639,313.8 | 0 | 1,639,313.8 | 1 | 1,639,313.8 | 0 | 1,639,313.8 | 1 | 1,639,313.8 | 1 |
| | 91 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 |
| | 101 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 4 |
| | 111 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 3 | 1,645,833.3 | 5 |
| | 121 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 2 |
| | 131 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 |
| | 141 | 2,262,338.5 | 20 | 2,262,338.5 | 20 | 2,262,338.5 | 71 | 2,262,338.5 | 20 | 2,262,338.5 | 22 | 2,262,338.5 | 47 |
| | 151 | 2,469,731.2 | 260 | 2,469,731.2 | 282 | 2,469,731.2 | 396 | 2,469,731.2 | 266 | 2,469,731.2 | 270 | 2,469,731.2 | 2450 |
| brd14051-c12-w75-3000-4000 | 51 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 1 | 1,025,843.4 | 1 | 1,025,843.4 | 0 | 1,025,843.4 | 0 |
| | 61 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 |
| | 71 | 1,435,166.0 | 23 | 1,435,166.0 | 23 | 1,435,166.0 | 23 | 1,435,166.0 | 23 | 1,435,166.0 | 24 | 1,434,817.6 | 12 |
| | 81 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 |
| | 91 | 1,539,992.0 | 2452 | 1,539,992.0 | 2490 | 1,539,992.0 | 2685 | 1,539,992.0 | 2891 | 1,539,992.0 | 2510 | 1,539,992.0 | 3426 |
| | 101 | 1,852,282.5 | 130 | 1,852,282.5 | 131 | 1,852,282.5 | 142 | 1,852,282.5 | 132 | 1,852,282.5 | 136 | 1,852,282.5 | 162 |
| | 111 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 3 |
| | 121 | 1,955,869.7 | 1 | 1,955,869.7 | 1 | 1,955,869.7 | 1 | 1,955,869.7 | 1 | 1,955,869.7 | 2 | 1,955,869.7 | 2 |
| | 131 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 2 |
| | 141 | 1,850,770.8 | 4 | 1,850,770.8 | 4 | 1,850,745.6 | 5 | 1,850,770.8 | 5 | 1,850,770.8 | 5 | 1,850,745.6 | 8 |
| | 151 | 2,055,249.8 | 13 | 2,055,249.8 | 13 | 2,055,249.8 | 24 | 2,055,249.8 | 16 | 2,055,249.8 | 43 | 2,055,058.8 | 99 |
| brd14051-c12-w90-3000-4000 | 51 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 |
| | 61 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 |
| | 71 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 |
| | 81 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 |
| | 91 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 2 |
| | 101 | 1,753,114.0 | 1 | 1,753,114.0 | 1 | 1,753,114.0 | 1 | 1,753,114.0 | 1 | 1,753,114.0 | 1 | 1,753,114.0 | 2 |
| | 111 | 1,543,238.8 | 4 | 1,543,238.8 | 4 | 1,543,238.8 | 4 | 1,543,238.8 | 4 | 1,543,238.8 | 4 | 1,543,238.8 | 6 |
| | 121 | 2,057,713.6 | 32 | 2,057,713.6 | 34 | 2,057,692.2 | 42 | 2,057,713.6 | 34 | 2,057,713.6 | 39 | 2,057,692.2 | 196 |
| | 131 | 2,067,039.1 | 2 | 2,067,039.1 | 2 | 2,067,039.1 | 2 | 2,067,039.1 | 3 | 2,067,039.1 | 2 | 2,067,039.1 | 6 |
| | 141 | 2,256,401.7 | 21 | 2,256,401.7 | 20 | 2,256,401.7 | 43 | 2,256,401.7 | 36 | 2,256,401.7 | 37 | 2,256,401.7 | 141 |
| | 151 | 1,958,937.6 | 922 | 1,958,937.6 | 953 | 1,958,937.6 | 1317 | 1,958,937.6 | 925 | 1,958,937.6 | 1566 | 1,958,937.6 | 2452 |
| brd14051-c12-w120-3000-4000 | 51 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 |
| | 61 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 1 |
| | 71 | 1,234,004.1 | 2 | 1,234,004.1 | 2 | 1,234,004.1 | 2 | 1,234,004.1 | 2 | 1,234,004.1 | 2 | 1,233,936.5 | 2 |
| | 81 | 1,335,699.7 | 2 | 1,335,699.7 | 2 | 1,335,699.7 | 2 | 1,335,699.7 | 2 | 1,335,699.7 | 2 | 1,335,699.7 | 2 |
| | 91 | 1,542,670.1 | 2 | 1,542,670.1 | 2 | 1,446,373.0 | 1 | 1,446,449.9 | 1 | 1,446,449.9 | 1 | 1,446,373.0 | 1 |
| | 101 | 1,849,511.5 | 3 | 1,849,511.5 | 3 | 1,849,511.5 | 3 | 1,849,511.5 | 3 | 1,849,511.5 | 3 | 1,849,511.5 | 4 |
| | 111 | 1,540,077.3 | 34 | 1,540,077.3 | 35 | 1,539,836.6 | 44 | 1,540,077.3 | 29 | 1,540,077.3 | 58 | 1,539,836.6 | 245 |
| | 121 | 1,752,085.8 | 18 | 1,752,085.8 | 18 | 1,752,085.8 | 54 | 1,752,085.8 | 18 | 1,752,085.8 | 19 | 1,752,085.8 | 125 |
| | 131 | 1,859,388.2 | 3 | 1,859,388.2 | 3 | 1,858,765.5 | 32 | 1,859,388.2 | 4 | 1,859,388.2 | 3 | 1,858,765.5 | 72 |
| | 141 | 1,955,906.1 | 190 | 1,955,906.1 | 203 | 1,955,906.1 | 95 | 1,955,906.1 | 223 | 1,955,906.1 | 160 | – | – |
| | 151 | 1,854,661.1 | 127 | 1,854,661.1 | 134 | 1,854,641.1 | 240 | 1,854,661.1 | 133 | 1,854,661.1 | 234 | – | – |
| d18512-c12-w45-3000-4000 | 51 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 |
| | 61 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 |
| | 71 | 1,435,207.5 | 1 | 1,435,207.5 | 1 | 1,435,207.5 | 1 | 1,435,207.5 | 1 | 1,435,207.5 | 1 | 1,435,207.5 | 1 |
| | 81 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 |
| | 91 | 1,643,695.1 | 1 | 1,643,695.1 | 1 | 1,643,695.1 | 1 | 1,643,695.1 | 1 | 1,643,695.1 | 1 | 1,643,695.1 | 1 |
| | 101 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 3 |
| | 111 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 7 |
| | 121 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 |
| | 131 | 2,264,680.1 | 9 | 2,264,680.1 | 9 | 2,264,680.1 | 10 | 2,264,680.1 | 9 | 2,264,680.1 | 9 | 2,264,680.1 | 18 |
| | 141 | 2,470,199.4 | 3 | 2,470,199.4 | 3 | 2,470,199.4 | 3 | 2,470,199.4 | 3 | 2,470,199.4 | 3 | 2,470,199.4 | 5 |
| | 151 | 2,364,931.9 | 18 | 2,364,931.9 | 18 | 2,364,931.9 | 19 | 2,364,931.9 | 19 | 2,364,931.9 | 20 | 2,364,931.9 | 28 |

*Continued on next page*

Table 14 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| d18512-c12-w60-3000-4000 | 51 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 |
| | 61 | 1,129,637.7 | 80 | 1,129,637.7 | 80 | 1,129,637.7 | 81 | 1,129,637.7 | 81 | 1,129,637.7 | 83 | 1,129,637.7 | 94 |
| | 71 | 1,332,573.3 | 0 | 1,332,573.3 | 0 | 1,332,573.3 | 0 | 1,332,573.3 | 1 | 1,332,573.3 | 0 | 1,332,573.3 | 1 |
| | 81 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 |
| | 91 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 |
| | 101 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 5 |
| | 111 | 2,161,004.7 | 4 | 2,161,004.7 | 4 | 2,161,004.7 | 4 | 2,161,004.7 | 4 | 2,161,004.7 | 5 | 2,161,004.7 | 7 |
| | 121 | 2,369,463.5 | 2 | 2,369,463.5 | 2 | 2,369,386.9 | 2 | 2,369,463.5 | 2 | 2,369,463.5 | 2 | 2,369,386.9 | 5 |
| | 131 | 2,163,246.2 | 5 | 2,163,246.2 | 5 | 2,163,246.2 | 6 | 2,163,246.2 | 5 | 2,163,246.2 | 5 | 2,163,246.2 | 16 |
| | 141 | 2,058,489.3 | 229 | 2,058,489.3 | 253 | 2,058,489.3 | 709 | 2,058,489.3 | 167 | 2,058,489.3 | 728 | – | – |
| | 151 | 2,471,999.8 | 4 | 2,471,999.8 | 4 | 2,471,999.8 | 4 | 2,471,999.8 | 4 | 2,471,999.8 | 4 | 2,471,999.8 | 6 |
| d18512-c12-w75-3000-4000 | 51 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 |
| | 61 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 |
| | 71 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 |
| | 81 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 1 |
| | 91 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 |
| | 101 | 1,643,577.1 | 388 | 1,643,577.1 | 396 | 1,643,577.1 | 410 | 1,643,577.1 | 393 | 1,643,577.1 | 438 | 1,643,577.1 | 1103 |
| | 111 | 1,854,577.6 | 10 | 1,854,577.6 | 10 | 1,854,577.6 | 12 | 1,854,577.6 | 12 | 1,854,577.6 | 14 | 1,854,577.6 | 22 |
| | 121 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 2 |
| | 131 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 3 |
| | 141 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 8 |
| | 151 | 2,164,095.5 | 87 | 2,164,095.5 | 88 | 2,164,054.5 | 88 | 2,164,095.5 | 104 | 2,164,095.5 | 107 | 2,064,493.4 | 1384 |
| d18512-c12-w90-3000-4000 | 51 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 |
| | 61 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 |
| | 71 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 1 | 1,230,829.6 | 2 | 1,230,829.6 | 2 | 1,230,829.6 | 2 |
| | 81 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 2 |
| | 91 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 |
| | 101 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 3 |
| | 111 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 2 |
| | 121 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 4 | 2,059,222.6 | 6 |
| | 131 | 1,955,249.1 | 3 | 1,955,249.1 | 3 | 1,955,249.1 | 4 | 1,955,249.1 | 3 | 1,955,249.1 | 4 | 1,955,249.1 | 8 |
| | 141 | 1,955,788.1 | 8 | 1,955,788.1 | 8 | 1,955,788.1 | 8 | 1,955,788.1 | 8 | 1,955,788.1 | 9 | 1,955,788.1 | 26 |
| | 151 | 2,467,660.9 | 103 | 2,467,660.9 | 111 | 2,467,660.9 | 158 | 2,467,660.9 | 117 | 2,467,660.9 | 166 | 2,467,660.9 | 2723 |
| d18512-c12-w120-3000-4000 | 51 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 |
| | 61 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 |
| | 71 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 |
| | 81 | 1,233,144.8 | 2 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 4 |
| | 91 | 1,442,157.1 | 2 | 1,442,157.1 | 2 | 1,442,157.1 | 2 | 1,442,157.1 | 2 | 1,442,157.1 | 2 | 1,442,157.1 | 2 |
| | 101 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 5 |
| | 111 | 1,749,900.4 | 3 | 1,749,900.4 | 3 | 1,749,560.2 | 2 | 1,749,900.4 | 3 | 1,749,900.4 | 3 | 1,749,560.2 | 2 |
| | 121 | 1,961,979.0 | 2 | 1,961,979.0 | 2 | 1,961,979.0 | 3 | 1,961,979.0 | 2 | 1,961,979.0 | 3 | 1,961,979.0 | 4 |
| | 131 | 1,749,662.0 | 961 | 1,749,662.0 | 994 | 1,749,662.0 | 1039 | 1,749,662.0 | 1922 | 1,749,662.0 | 1734 | – | – |
| | 141 | 1,955,366.4 | 203 | 1,955,366.4 | 212 | 1,955,366.4 | 313 | 1,955,366.4 | 282 | 1,955,366.4 | 279 | 1,955,366.4 | 1079 |
| | 151 | 2,059,976.1 | 12 | 2,059,976.1 | 12 | 2,059,976.1 | 27 | 2,059,976.1 | 16 | 2,059,976.1 | 17 | 2,059,976.1 | 206 |
| fn14461-c12-w45-3000-4000 | 51 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 |
| | 61 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 |
| | 71 | 917,355.6 | 2 | 917,355.6 | 2 | 917,355.6 | 2 | 917,355.6 | 2 | 917,355.6 | 2 | 917,355.6 | 3 |
| | 81 | 921,221.2 | 3 | 921,221.2 | 3 | 921,221.2 | 3 | 921,221.2 | 3 | 921,221.2 | 4 | 921,221.2 | 4 |
| | 91 | 1,021,195.6 | 11 | 1,021,195.6 | 11 | 1,021,195.6 | 14 | 1,021,195.6 | 16 | 1,021,195.6 | 18 | 1,021,195.6 | 27 |
| | 101 | 1,228,107.6 | 5 | 1,228,107.6 | 5 | 1,228,107.6 | 5 | 1,228,107.6 | 5 | 1,228,107.6 | 5 | 1,228,107.6 | 8 |
| | 111 | 1,329,296.4 | 26 | 1,329,296.4 | 27 | 1,329,296.4 | 27 | 1,329,296.4 | 24 | 1,329,296.4 | 24 | 1,329,296.4 | 42 |
| | 121 | 1,431,497.8 | 5 | 1,431,497.8 | 6 | 1,431,497.8 | 7 | 1,431,497.8 | 6 | 1,431,497.8 | 7 | 1,431,497.8 | 11 |
| | 131 | 1,540,748.8 | 5 | 1,540,748.8 | 6 | 1,540,748.8 | 6 | 1,540,748.8 | 6 | 1,540,748.8 | 6 | 1,540,748.8 | 9 |
| | 141 | 1,643,278.7 | 49 | 1,643,278.7 | 51 | 1,643,123.3 | 13 | 1,643,278.7 | 13 | 1,643,123.3 | 50 | 1,643,123.3 | 294 |
| | 151 | 1,638,676.9 | 25 | 1,638,676.9 | 26 | 1,638,676.9 | 27 | 1,638,676.9 | 26 | 1,638,676.9 | 28 | 1,638,676.9 | 54 |

*Continued on next page*

Table 14 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| fnl4461-c12-w60-3000-4000 | 51 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 1 | 715,104.3 | 2 |
| | 61 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 | 816,035.5 | 1 |
| | 71 | 819,134.2 | 6 | 819,134.2 | 6 | 819,134.2 | 7 | 819,134.2 | 6 | 819,134.2 | 7 | 819,134.2 | 15 |
| | 81 | 921,467.0 | 16 | 921,467.0 | 17 | 921,467.0 | 29 | 921,467.0 | 17 | 921,467.0 | 19 | 921,467.0 | 44 |
| | 91 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 4 | 921,515.0 | 3 | 921,515.0 | 4 | 921,515.0 | 5 |
| | 101 | 1,125,975.0 | 36 | 1,125,975.0 | 38 | 1,125,975.0 | 52 | 1,125,975.0 | 39 | 1,125,975.0 | 45 | 1,125,975.0 | 121 |
| | 111 | 1,329,538.8 | 15 | 1,329,538.8 | 16 | 1,329,538.8 | 15 | 1,329,538.8 | 16 | 1,329,538.8 | 15 | 1,329,538.8 | 24 |
| | 121 | 1,230,909.8 | 11 | 1,230,909.8 | 11 | 1,230,909.8 | 14 | 1,230,909.8 | 13 | 1,230,909.8 | 11 | 1,230,909.8 | 49 |
| | 131 | 1,538,369.1 | 229 | 1,538,369.1 | 235 | 1,538,369.1 | 248 | 1,538,369.1 | 271 | 1,538,369.1 | 425 | 1,538,369.1 | 749 |
| | 141 | 1,438,867.9 | 441 | 1,438,867.9 | 459 | 1,438,867.9 | 296 | 1,438,867.9 | 375 | 1,438,867.9 | 449 | 1,438,867.9 | 1809 |
| | 151 | 1,538,532.2 | 2804 | 1,538,532.2 | 2821 | 1,538,532.2 | 3336 | 1,538,532.2 | 3078 | 1,538,532.2 | 3333 | – | – |
| fnl4461-c12-w75-3000-4000 | 51 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 1 |
| | 61 | 815,711.0 | 3 | 815,711.0 | 3 | 815,711.0 | 3 | 815,711.0 | 3 | 815,711.0 | 3 | 815,711.0 | 4 |
| | 71 | 819,042.5 | 10 | 819,042.5 | 10 | 819,042.5 | 9 | 819,042.5 | 4 | 819,042.5 | 4 | 819,007.5 | 15 |
| | 81 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 3 | 919,078.2 | 3 | 919,078.2 | 3 | 919,078.2 | 4 |
| | 91 | 1,022,952.2 | 4 | 1,022,952.2 | 4 | 1,022,952.2 | 4 | 1,022,952.2 | 3 | 1,022,952.2 | 4 | 1,022,952.2 | 6 |
| | 101 | 1,225,494.8 | 26 | 1,225,494.8 | 27 | 1,225,494.8 | 43 | 1,225,494.8 | 29 | 1,225,494.8 | 31 | 1,225,494.8 | 183 |
| | 111 | 1,130,640.3 | 104 | 1,130,640.3 | 106 | 1,130,018.5 | 42 | 1,130,640.3 | 111 | 1,130,640.3 | 115 | 1,130,018.5 | 74 |
| | 121 | 1,334,711.7 | 55 | 1,334,711.7 | 57 | 1,334,621.6 | 106 | 1,334,711.7 | 71 | 1,334,711.7 | 81 | 1,333,932.4 | 137 |
| | 131 | 1,434,567.2 | 113 | 1,434,567.2 | 118 | 1,434,567.2 | 140 | 1,434,567.2 | 93 | 1,434,567.2 | 141 | 1,434,567.2 | 389 |
| | 141 | 1,538,616.8 | 434 | 1,538,616.8 | 435 | 1,538,616.8 | 499 | 1,538,616.8 | 494 | 1,538,616.8 | 511 | 1,538,616.8 | 1536 |
| | 151 | 1,441,284.1 | 123 | 1,441,284.1 | 122 | 1,441,284.1 | 292 | 1,441,284.1 | 166 | 1,441,284.1 | 141 | – | – |
| fnl4461-c12-w90-3000-4000 | 51 | 714,229.4 | 1 | 714,229.4 | 1 | 714,229.4 | 1 | 714,229.4 | 1 | 714,229.4 | 1 | 714,229.4 | 1 |
| | 61 | 817,382.7 | 286 | 817,382.7 | 276 | 817,382.7 | 378 | 817,382.7 | 302 | 817,382.7 | 297 | 817,185.5 | 333 |
| | 71 | 815,993.3 | 12 | 815,993.3 | 11 | 815,709.4 | 8 | 815,993.3 | 11 | 815,993.3 | 13 | 815,054.6 | 8 |
| | 81 | 921,498.3 | 4 | 921,498.3 | 4 | 921,498.3 | 5 | 921,498.3 | 4 | 921,498.3 | 5 | 921,498.3 | 6 |
| | 91 | 923,090.8 | 9 | 923,090.8 | 9 | 923,090.8 | 11 | 923,090.8 | 12 | 923,090.8 | 12 | 923,090.8 | 39 |
| | 101 | 1,126,405.4 | 236 | 1,126,405.4 | 242 | 1,126,342.8 | 339 | 1,126,405.4 | 270 | 1,126,405.4 | 318 | – | – |
| | 111 | 1,227,372.2 | 176 | 1,227,372.2 | 176 | 1,227,372.2 | 405 | 1,227,372.2 | 410 | 1,227,372.2 | 368 | – | – |
| | 121 | 1,331,507.2 | 249 | 1,331,507.2 | 257 | 1,331,507.2 | 420 | 1,331,507.2 | 286 | 1,331,507.2 | 471 | 1,331,507.2 | 1921 |
| | 131 | 1,230,658.8 | 514 | 1,230,658.8 | 523 | 1,230,658.8 | 656 | 1,230,658.8 | 616 | 1,230,658.8 | 674 | – | – |
| | 141 | 1,336,345.2 | 633 | 1,336,345.2 | 643 | 1,336,345.2 | 740 | 1,336,345.2 | 667 | 1,336,345.2 | 698 | 1,336,345.2 | 2322 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w120-3000-4000 | 51 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 3 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 8 |
| | 61 | 615,855.5 | 3 | 615,855.5 | 3 | 615,855.5 | 3 | 615,855.5 | 3 | 615,855.5 | 4 | 615,855.5 | 10 |
| | 71 | 617,274.7 | 4 | 617,274.7 | 4 | 617,274.7 | 4 | 617,274.7 | 5 | 617,274.7 | 6 | 617,274.7 | 9 |
| | 81 | 819,609.3 | 123 | 819,609.3 | 130 | 819,609.3 | 150 | 819,609.3 | 143 | 819,609.3 | 345 | – | – |
| | 91 | 819,189.6 | 68 | 819,189.6 | 80 | 819,189.6 | 114 | 819,189.6 | 79 | 819,189.6 | 125 | 819,189.6 | 1183 |
| | 101 | 1,027,731.6 | 139 | 1,027,731.6 | 274 | 1,027,717.3 | 914 | 1,027,580.9 | 281 | 1,027,580.9 | 618 | – | – |
| | 111 | – | – | – | – | 1,025,469.6 | 923 | – | – | – | – | – | – |
| | 121 | 1,129,214.4 | 216 | 1,129,214.4 | 268 | 1,129,214.4 | 348 | 1,129,214.4 | 260 | 1,129,214.4 | 908 | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| nrw1379-c12-w45-3000-4000 | 51 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 |
| | 61 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 |
| | 71 | 1,121,131.5 | 0 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 0 | 1,121,131.5 | 1 |
| | 81 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 3 |
| | 91 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 |
| | 101 | 1,329,356.9 | 10 | 1,329,356.9 | 10 | 1,329,356.9 | 10 | 1,329,356.9 | 10 | 1,329,356.9 | 12 | 1,329,356.9 | 19 |
| | 111 | 1,533,384.5 | 10 | 1,533,384.5 | 10 | 1,533,384.5 | 8 | 1,533,384.5 | 10 | 1,533,384.5 | 11 | 1,434,738.9 | 15 |
| | 121 | 1,538,975.6 | 33 | 1,538,975.6 | 34 | 1,538,975.6 | 23 | 1,538,975.6 | 35 | 1,538,975.6 | 35 | 1,538,975.6 | 66 |
| | 131 | 1,841,048.7 | 25 | 1,841,048.7 | 27 | 1,841,048.7 | 25 | 1,841,048.7 | 27 | 1,841,048.7 | 26 | 1,841,048.7 | 38 |
| | 141 | 1,945,073.1 | 9 | 1,945,073.1 | 10 | 1,945,073.1 | 11 | 1,945,073.1 | 11 | 1,945,073.1 | 11 | 1,945,073.1 | 35 |
| | 151 | 2,050,358.3 | 8 | 2,050,358.3 | 8 | 2,050,358.3 | 8 | 2,050,358.3 | 8 | 2,050,358.3 | 8 | 2,050,358.3 | 7 |

*Continued on next page*

Table 14 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| nrw1379-c12-w60-3000-4000 | 51 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 |
| | 61 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 3 |
| | 71 | 1,122,155.8 | 1 | 1,122,155.8 | 2 | 1,122,155.8 | 2 | 1,122,155.8 | 2 | 1,122,155.8 | 2 | 1,122,155.8 | 3 |
| | 81 | 1,226,778.6 | 1 | 1,226,778.6 | 1 | 1,226,778.6 | 1 | 1,226,778.6 | 1 | 1,226,778.6 | 1 | 1,226,778.6 | 2 |
| | 91 | 1,228,248.5 | 12 | 1,228,248.5 | 12 | 1,228,248.5 | 24 | 1,228,248.5 | 14 | 1,228,248.5 | 13 | 1,228,248.5 | 37 |
| | 101 | 1,333,050.4 | 3 | 1,333,050.4 | 3 | 1,333,050.4 | 3 | 1,333,050.4 | 3 | 1,333,050.4 | 3 | 1,331,871.7 | 3 |
| | 111 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 8 |
| | 121 | 1,539,615.2 | 35 | 1,539,615.2 | 37 | 1,539,615.2 | 98 | 1,539,615.2 | 89 | 1,539,615.2 | 72 | 1,539,615.2 | 359 |
| | 131 | 1,637,882.3 | 36 | 1,637,882.3 | 38 | 1,637,704.3 | 73 | 1,637,882.3 | 43 | 1,637,704.3 | 71 | 1,637,704.3 | 206 |
| | 141 | 1,946,218.6 | 31 | 1,946,218.6 | 33 | 1,946,218.6 | 37 | 1,946,218.6 | 36 | 1,946,218.6 | 41 | 1,946,218.6 | 310 |
| | 151 | 1,744,368.9 | 356 | 1,744,368.9 | 371 | 1,743,758.8 | 213 | 1,744,368.9 | 265 | 1,744,368.9 | 364 | 1,743,758.8 | 750 |
| nrw1379-c12-w75-3000-4000 | 51 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 1 |
| | 61 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 2 |
| | 71 | 1,020,804.5 | 1 | 1,020,804.5 | 1 | 1,020,804.5 | 2 | 1,020,804.5 | 1 | 1,020,804.5 | 1 | 1,020,804.5 | 3 |
| | 81 | 1,124,893.0 | 13 | 1,124,893.0 | 13 | 1,124,893.0 | 11 | 1,124,893.0 | 13 | 1,124,893.0 | 13 | 1,124,893.0 | 19 |
| | 91 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 4 | 1,229,438.5 | 4 | 1,229,438.5 | 4 | 1,229,438.5 | 7 |
| | 101 | 1,128,092.0 | 8 | 1,128,092.0 | 9 | 1,128,092.0 | 10 | 1,128,092.0 | 9 | 1,128,092.0 | 9 | 1,128,092.0 | 20 |
| | 111 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 5 |
| | 121 | 1,433,265.8 | 152 | 1,433,265.8 | 109 | 1,433,265.8 | 109 | 1,433,265.8 | 159 | 1,433,265.8 | 87 | 1,433,265.8 | 157 |
| | 131 | 1,538,129.4 | 197 | 1,538,129.4 | 211 | 1,537,208.9 | 8 | 1,538,129.4 | 160 | 1,537,208.9 | 8 | 1,537,208.9 | 25 |
| | 141 | 1,642,869.8 | 49 | 1,642,869.8 | 50 | 1,642,869.8 | 59 | 1,642,869.8 | 60 | 1,642,869.8 | 51 | 1,642,869.8 | 355 |
| | 151 | 1,644,362.4 | 326 | 1,644,362.4 | 333 | 1,644,354.3 | 441 | 1,644,362.4 | 384 | 1,644,362.4 | 234 | 1,644,354.3 | 841 |
| nrw1379-c12-w90-3000-4000 | 51 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 |
| | 61 | 1,222,461.1 | 1 | 1,222,461.1 | 1 | 1,222,461.1 | 0 | 1,222,461.1 | 1 | 1,222,461.1 | 1 | 1,222,461.1 | 1 |
| | 71 | 1,021,147.9 | 4 | 1,021,147.9 | 5 | 1,021,147.9 | 6 | 1,021,147.9 | 5 | 1,021,147.9 | 7 | 1,021,147.9 | 468 |
| | 81 | 1,023,927.9 | 10 | 1,023,927.9 | 10 | 1,023,927.9 | 12 | 1,023,927.9 | 9 | 1,023,927.9 | 15 | 1,023,927.9 | 848 |
| | 91 | 1,323,415.2 | 4 | 1,323,415.2 | 4 | 1,323,415.2 | 5 | 1,323,415.2 | 5 | 1,323,415.2 | 5 | 1,323,415.2 | 31 |
| | 101 | 1,330,076.4 | 9 | 1,330,076.4 | 9 | 1,330,076.4 | 12 | 1,330,076.4 | 10 | 1,330,076.4 | 11 | 1,330,076.4 | 39 |
| | 111 | 1,230,435.8 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 5 | 1,230,435.8 | 5 | 1,230,435.8 | 8 |
| | 121 | 1,333,888.5 | 8 | 1,333,888.5 | 8 | 1,333,888.5 | 9 | 1,333,888.5 | 8 | 1,333,888.5 | 9 | 1,333,888.5 | 22 |
| | 131 | 1,333,662.5 | 24 | 1,333,662.5 | 26 | 1,333,662.5 | 38 | 1,333,662.5 | 21 | 1,333,662.5 | 33 | 1,333,662.5 | 785 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,638,614.1 | 479 | 1,638,614.1 | 502 | 1,638,614.1 | 542 | 1,638,614.1 | 629 | 1,638,614.1 | 651 | 1,638,614.1 | 1989 |
| nrw1379-c12-w120-3000-4000 | 51 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 6 |
| | 61 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 |
| | 71 | 1,023,083.2 | 7 | 1,023,083.2 | 7 | 1,023,083.2 | 5 | 1,023,083.2 | 7 | 1,023,083.2 | 7 | 1,023,083.2 | 22 |
| | 81 | 923,992.7 | 6 | 923,992.7 | 6 | 923,992.7 | 7 | 923,992.7 | 6 | 923,992.7 | 6 | 923,992.7 | 13 |
| | 91 | 1,023,007.4 | 7 | 1,023,007.4 | 6 | 1,023,007.4 | 8 | 1,023,007.4 | 7 | 1,023,007.4 | 7 | 1,023,007.4 | 26 |
| | 101 | 1,229,648.7 | 18 | 1,229,648.7 | 18 | 1,229,648.7 | 32 | 1,229,648.7 | 28 | 1,229,648.7 | 32 | 1,229,648.7 | 94 |
| | 111 | 1,231,008.5 | 35 | 1,231,008.5 | 31 | 1,231,008.5 | 266 | 1,231,008.5 | 38 | 1,231,008.5 | 44 | 1,231,008.5 | 776 |
| | 121 | – | – | – | – | 1,233,913.7 | 1740 | – | – | – | – | – | – |
| | 131 | 1,433,718.2 | 1359 | 1,433,718.2 | 1441 | 1,433,718.2 | 2806 | 1,433,718.2 | 1523 | 1,433,718.2 | 3132 | – | – |
| | 141 | 1,639,335.0 | 37 | 1,639,335.0 | 39 | 1,639,335.0 | 43 | 1,639,335.0 | 52 | 1,639,335.0 | 51 | 1,639,335.0 | 142 |
| | 151 | 1,537,597.9 | 1226 | 1,537,597.9 | 1270 | 1,440,669.5 | 722 | 1,440,669.5 | 714 | 1,440,669.5 | 581 | – | – |
| Solved | | | 282 | | 282 | | 283 | | 282 | | 282 | | 263 |
| ∅ Time | | | 133.3 | | 134.9 | | 163.3 | | 146.6 | | 167.4 | | 195.4 |

**Table 15: Detailed computational results $\delta = 25$ and with two stacks**

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w15-500-1000 | 51 | 804,307.4 | 1 | 804,307.4 | 1 | 804,307.4 | 1 | 804,307.4 | 1 | 804,307.4 | 1 | 804,307.4 | 1 |
| | 61 | 905,221.0 | 1 | 905,221.0 | 1 | 905,221.0 | 1 | 905,221.0 | 1 | 905,221.0 | 1 | 905,221.0 | 1 |
| | 71 | 1,006,141.1 | 14 | 1,006,141.1 | 14 | 1,006,141.1 | 14 | 1,006,141.1 | 15 | 1,006,141.1 | 20 | 1,006,141.1 | 34 |
| | 81 | 1,307,681.0 | 1 | 1,307,681.0 | 2 | 1,307,681.0 | 2 | 1,307,681.0 | 2 | 1,307,681.0 | 2 | 1,307,681.0 | 3 |
| | 91 | 1,308,131.6 | 3 | 1,308,131.6 | 3 | 1,308,131.6 | 3 | 1,308,131.6 | 3 | 1,308,131.6 | 3 | 1,308,105.9 | 4 |
| | 101 | 1,511,236.0 | 1 | 1,511,236.0 | 1 | 1,511,236.0 | 1 | 1,511,236.0 | 1 | 1,511,236.0 | 2 | 1,511,236.0 | 2 |
| | 111 | 1,812,581.6 | 4 | 1,812,581.6 | 4 | 1,812,581.6 | 4 | 1,812,581.6 | 4 | 1,812,581.6 | 4 | 1,812,573.6 | 6 |
| | 121 | 1,612,450.5 | 112 | 1,612,450.5 | 125 | 1,612,450.5 | 114 | 1,612,450.5 | 113 | 1,612,450.5 | 115 | 1,612,448.1 | 165 |
| | 131 | 1,812,506.7 | 866 | 1,812,506.7 | 896 | 1,812,506.7 | 1007 | 1,812,506.7 | 1103 | 1,812,506.7 | 1018 | 1,812,307.9 | 230 |
| | 141 | 2,013,940.3 | 117 | 2,013,940.3 | 82 | 2,013,940.3 | 84 | 2,013,940.3 | 90 | 2,013,940.3 | 99 | 2,013,940.3 | 134 |
| | 151 | 2,115,523.7 | 137 | 2,115,523.7 | 145 | 2,115,523.7 | 147 | 2,115,523.7 | 125 | 2,115,523.7 | 142 | 2,115,523.7 | 195 |
| a280-c12-w15-1000-1200 | 51 | 904,616.6 | 0 | 904,616.6 | 0 | 904,616.6 | 0 | 904,587.5 | 0 | 904,587.5 | 0 | 904,587.5 | 0 |
| | 61 | 905,305.3 | 7 | 905,305.3 | 7 | 905,305.3 | 7 | 905,292.3 | 5 | 905,292.3 | 5 | 905,292.3 | 6 |
| | 71 | 1,005,845.0 | 1 | 1,005,845.0 | 1 | 1,005,845.0 | 1 | 1,005,845.0 | 1 | 1,005,845.0 | 1 | 1,005,845.0 | 2 |
| | 81 | 1,208,027.6 | 6 | 1,208,027.6 | 5 | 1,208,027.6 | 6 | 1,208,027.6 | 6 | 1,208,027.6 | 6 | 1,207,929.4 | 5 |
| | 91 | 1,209,279.1 | 5 | 1,209,279.1 | 5 | 1,209,279.1 | 6 | 1,209,279.1 | 5 | 1,209,279.1 | 6 | 1,209,279.1 | 8 |
| | 101 | 1,310,248.6 | 44 | 1,310,248.6 | 47 | 1,310,248.6 | 48 | 1,210,732.5 | 2 | 1,210,732.5 | 2 | 1,210,732.5 | 3 |
| | 111 | 1,310,931.5 | 31 | 1,310,931.5 | 31 | 1,310,931.5 | 32 | 1,310,931.5 | 25 | 1,310,931.5 | 38 | 1,310,931.5 | 38 |
| | 121 | 1,209,965.4 | 133 | 1,209,965.4 | 137 | 1,209,965.4 | 146 | 1,209,965.4 | 134 | 1,209,965.4 | 168 | 1,209,965.4 | 236 |
| | 131 | 1,512,877.4 | 819 | 1,512,877.4 | 815 | 1,512,877.4 | 548 | 1,512,807.1 | 473 | 1,512,748.2 | 1078 | 1,512,748.2 | 1269 |
| | 141 | 1,913,343.4 | 40 | 1,913,343.4 | 47 | 1,913,343.4 | 39 | 1,913,211.1 | 9 | 1,913,150.3 | 12 | 1,913,150.3 | 19 |
| | 151 | 1,714,913.7 | 516 | 1,714,913.7 | 540 | 1,714,913.7 | 557 | 1,714,777.0 | 829 | 1,714,523.6 | 188 | 1,714,523.6 | 288 |
| a280-c12-w15-1500-2000 | 51 | 504,150.1 | 2 | 504,150.1 | 2 | 504,150.1 | 2 | 504,150.1 | 2 | 504,150.1 | 3 | 504,150.1 | 4 |
| | 61 | 604,820.6 | 3 | 604,820.6 | 3 | 604,820.6 | 4 | 604,820.6 | 3 | 604,820.6 | 4 | 604,820.6 | 5 |
| | 71 | 705,743.3 | 112 | 705,743.3 | 156 | 705,743.3 | 106 | 705,743.3 | 102 | 705,743.3 | 196 | 705,743.3 | 228 |
| | 81 | 806,776.2 | 188 | 806,776.2 | 295 | 806,776.2 | 352 | 806,776.2 | 234 | 806,776.2 | 347 | 806,746.7 | 346 |
| | 91 | 907,909.6 | 111 | 907,909.6 | 114 | 907,909.6 | 125 | 907,863.4 | 107 | 907,863.4 | 160 | 907,863.4 | 279 |
| | 101 | 908,405.9 | 569 | 908,405.9 | 558 | 908,405.9 | 554 | 908,405.9 | 1389 | 908,386.7 | 1849 | 908,386.7 | 2444 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | 1,110,562.1 | 1026 | 1,110,562.1 | 1367 | 1,110,562.1 | 1131 | 1,110,562.1 | 1578 | 1,110,562.1 | 2715 | – | – |
| | 131 | 1,210,920.5 | 3059 | 1,210,920.5 | 3313 | 1,210,920.5 | 3399 | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-500-1000 | 51 | 704,283.0 | 1 | 704,283.0 | 1 | 704,283.0 | 1 | 704,283.0 | 1 | 704,283.0 | 1 | 704,283.0 | 1 |
| | 61 | 804,540.9 | 3 | 804,540.9 | 3 | 804,540.9 | 4 | 804,540.9 | 3 | 804,540.9 | 4 | 804,540.9 | 7 |
| | 71 | 1,005,784.2 | 65 | 1,005,784.2 | 39 | 1,005,784.2 | 42 | 1,005,784.2 | 85 | 1,005,784.2 | 112 | 1,005,784.2 | 50 |
| | 81 | 1,107,459.4 | 76 | 1,107,459.4 | 84 | 1,107,459.4 | 123 | 1,107,459.4 | 118 | 1,107,459.4 | 100 | 1,107,233.8 | 25 |
| | 91 | 1,208,242.8 | 3 | 1,208,242.8 | 4 | 1,208,242.8 | 4 | 1,208,242.8 | 3 | 1,208,242.8 | 5 | 1,208,242.8 | 18 |
| | 101 | 1,310,125.4 | 16 | 1,310,125.4 | 17 | 1,310,125.4 | 17 | 1,310,125.4 | 20 | 1,310,125.4 | 17 | 1,310,032.2 | 84 |
| | 111 | 1,410,763.3 | 322 | 1,410,763.3 | 343 | 1,410,763.3 | 372 | 1,410,763.3 | 319 | 1,410,763.3 | 235 | 1,410,763.3 | 340 |
| | 121 | 1,510,972.7 | 645 | 1,510,972.7 | 729 | 1,510,972.7 | 695 | 1,510,972.7 | 705 | 1,510,972.7 | 720 | 1,510,961.1 | 1161 |
| | 131 | 1,511,626.1 | 1406 | 1,511,626.1 | 1279 | 1,511,626.1 | 1584 | 1,511,511.7 | 846 | 1,511,511.7 | 976 | 1,511,511.7 | 1906 |
| | 141 | 1,712,814.5 | 2725 | 1,712,814.5 | 2395 | 1,712,814.5 | 2815 | 1,712,814.5 | 3349 | 1,712,814.5 | 3337 | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | 1,712,620.9 | 681 |
| a280-c12-w30-1000-1200 | 51 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 |
| | 61 | 704,440.3 | 1 | 704,440.3 | 1 | 704,440.3 | 1 | 704,440.3 | 1 | 704,440.3 | 1 | 704,440.3 | 1 |
| | 71 | 905,796.8 | 3 | 905,796.8 | 3 | 905,796.8 | 4 | 905,796.8 | 3 | 905,796.8 | 4 | 905,796.8 | 14 |
| | 81 | 1,008,098.3 | 2 | 1,008,098.3 | 2 | 1,008,098.3 | 3 | 1,008,098.3 | 2 | 1,008,098.3 | 3 | 1,008,098.2 | 4 |
| | 91 | 1,208,206.4 | 2 | 1,208,206.4 | 2 | 1,208,206.4 | 3 | 1,208,192.0 | 2 | 1,208,192.0 | 4 | 1,208,192.0 | 4 |
| | 101 | 1,210,282.3 | 26 | 1,210,282.3 | 27 | 1,210,282.3 | 28 | 1,210,282.3 | 35 | 1,210,282.3 | 30 | 1,210,282.3 | 43 |
| | 111 | 1,311,048.1 | 63 | 1,311,048.1 | 68 | 1,311,048.1 | 79 | 1,311,048.1 | 161 | 1,311,048.1 | 188 | 1,311,048.1 | 241 |
| | 121 | – | – | – | – | – | – | 1,511,809.4 | 21 | 1,511,809.4 | 22 | 1,511,809.4 | 26 |
| | 131 | – | – | – | – | – | – | – | – | – | – | 1,310,386.8 | 1449 |
| | 141 | 1,512,917.0 | 1683 | 1,512,917.0 | 1771 | 1,512,917.0 | 1793 | 1,512,917.0 | 2408 | 1,512,917.0 | 2919 | 1,512,634.4 | 317 |
| | 151 | 1,612,945.1 | 2051 | 1,612,945.1 | 1798 | 1,612,945.1 | 1832 | 1,612,896.5 | 3264 | 1,612,896.5 | 3259 | – | – |

*Continued on next page*

Table 15 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w30-1500-2000 | 51 | 503,770.0 | 9 | 503,770.0 | 11 | 503,770.0 | 12 | 503,770.0 | 13 | 503,751.6 | 24 | 503,751.6 | 41 |
| | 61 | 504,614.8 | 4 | 504,614.8 | 5 | 504,614.8 | 6 | 504,614.8 | 8 | 504,614.8 | 9 | 504,614.8 | 13 |
| | 71 | 705,597.2 | 53 | 705,597.2 | 42 | 705,597.2 | 47 | 705,597.2 | 73 | 705,597.2 | 65 | 705,597.2 | 83 |
| | 81 | 706,603.0 | 317 | 706,603.0 | 276 | 706,603.0 | 338 | 706,602.6 | 355 | 706,602.6 | 563 | 706,566.3 | 874 |
| | 91 | 707,696.0 | 463 | 707,696.0 | 494 | 707,696.0 | 480 | 707,696.0 | 693 | 707,696.0 | 820 | 707,696.0 | 1065 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | 908,924.4 | 1123 | 908,924.4 | 1474 | 908,924.4 | 1656 | 908,924.4 | 1459 | 908,924.4 | 1611 | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-500-1000 | 51 | 703,927.3 | 2 | 703,927.3 | 2 | 703,927.3 | 2 | 703,927.3 | 2 | 703,927.3 | 3 | 703,927.3 | 4 |
| | 61 | 704,649.1 | 40 | 704,649.1 | 51 | 704,649.1 | 45 | 704,649.1 | 32 | 704,563.4 | 29 | 704,563.4 | 43 |
| | 71 | 805,802.3 | 468 | 805,802.3 | 612 | 805,802.3 | 522 | 805,802.3 | 524 | 805,802.3 | 493 | 805,802.3 | 866 |
| | 81 | 1,006,867.0 | 41 | 1,006,867.0 | 82 | 1,006,867.0 | 70 | 1,006,867.0 | 45 | 1,006,867.0 | 91 | 1,006,818.8 | 63 |
| | 91 | 1,007,440.3 | 159 | 1,007,440.3 | 164 | 1,007,440.3 | 129 | 1,007,440.3 | 222 | 1,007,440.3 | 212 | 1,007,440.3 | 172 |
| | 101 | 1,209,358.9 | 1469 | 1,209,358.9 | 1410 | 1,209,358.9 | 816 | 1,209,358.9 | 964 | 1,209,358.9 | 1611 | 1,209,237.7 | 153 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1000-1200 | 51 | 703,880.0 | 1 | 703,880.0 | 1 | 703,880.0 | 1 | 703,880.0 | 1 | 703,880.0 | 1 | 703,880.0 | 1 |
| | 61 | 704,162.4 | 30 | 704,162.4 | 32 | 704,162.4 | 32 | 704,162.4 | 50 | 704,162.4 | 78 | 704,162.4 | 85 |
| | 71 | 705,809.2 | 3 | 705,809.2 | 3 | 705,809.2 | 3 | 705,809.2 | 3 | 705,809.2 | 5 | 705,809.2 | 8 |
| | 81 | 806,647.8 | 7 | 806,647.8 | 8 | 806,647.8 | 8 | 806,647.8 | 8 | 806,647.8 | 7 | 806,647.8 | 9 |
| | 91 | 1,007,953.4 | 45 | 1,007,953.4 | 47 | 1,007,953.4 | 64 | 1,007,670.2 | 7 | 1,007,593.1 | 17 | 1,007,593.1 | 30 |
| | 101 | 1,209,299.5 | 72 | 1,209,299.5 | 75 | 1,109,612.4 | 9 | 1,109,463.6 | 10 | 1,109,463.6 | 34 | 1,109,463.6 | 48 |
| | 111 | 1,110,121.1 | 979 | 1,110,121.1 | 1016 | 1,110,121.1 | 965 | 1,110,121.1 | 868 | 1,110,121.1 | 1293 | 1,110,121.1 | 1592 |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,412,132.8 | 2052 | 1,412,132.8 | 2072 | 1,412,132.8 | 3380 | 1,412,132.8 | 2715 | 1,412,132.8 | 2504 | – | – |
| a280-c12-w45-1500-2000 | 51 | 503,972.3 | 63 | 503,972.3 | 67 | 503,972.3 | 30 | 503,972.3 | 39 | 503,972.3 | 69 | 503,972.3 | 75 |
| | 61 | 604,568.5 | 18 | 604,568.5 | 39 | 604,568.5 | 36 | 604,568.5 | 37 | 604,568.5 | 38 | 604,542.3 | 53 |
| | 71 | 704,913.7 | 2984 | 606,004.5 | 56 | 606,004.5 | 71 | – | – | 605,667.3 | 169 | 605,667.3 | 750 |
| | 81 | 706,573.8 | 223 | 706,573.8 | 339 | 706,573.8 | 262 | 706,573.8 | 275 | 706,573.8 | 420 | 706,570.7 | 565 |
| | 91 | 807,436.7 | 58 | 807,436.7 | 77 | 807,436.7 | 90 | 807,151.4 | 35 | 807,151.4 | 38 | 807,151.4 | 50 |
| | 101 | 808,620.4 | 1632 | 808,620.4 | 1860 | 808,620.4 | 2714 | 808,620.4 | 3379 | – | – | – | – |
| | 111 | – | – | 908,415.4 | 1911 | 908,415.4 | 3042 | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| brd14051-c12-w45-3000-4000 | 51 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 |
| | 61 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| | 71 | 1,438,481.1 | 4 | 1,438,481.1 | 4 | 1,438,481.1 | 5 | 1,438,481.1 | 3 | 1,438,481.1 | 4 | 1,438,481.1 | 5 |
| | 81 | 1,438,087.6 | 4 | 1,438,087.6 | 4 | 1,438,087.6 | 4 | 1,438,087.6 | 4 | 1,438,087.6 | 4 | 1,438,087.6 | 5 |
| | 91 | 1,954,235.0 | 9 | 1,954,235.0 | 9 | 1,954,235.0 | 9 | 1,954,235.0 | 9 | 1,954,079.3 | 1 | 1,954,079.3 | 1 |
| | 101 | 1,850,783.2 | 1 | 1,850,783.2 | 1 | 1,850,783.2 | 1 | 1,850,783.2 | 1 | 1,850,783.2 | 1 | 1,850,783.2 | 2 |
| | 111 | 2,052,585.9 | 2 | 2,052,585.9 | 2 | 2,052,585.9 | 2 | 2,052,585.9 | 2 | 2,052,585.9 | 2 | 2,052,585.9 | 2 |
| | 121 | 2,061,033.3 | 3 | 2,061,033.3 | 3 | 2,061,033.3 | 3 | 2,061,033.3 | 3 | 2,061,033.3 | 3 | 2,061,033.3 | 4 |
| | 131 | 2,677,871.9 | 2 | 2,677,871.9 | 2 | 2,677,871.9 | 2 | 2,677,871.9 | 2 | 2,677,871.9 | 2 | 2,677,706.6 | 1 |
| | 141 | 2,570,672.5 | 6 | 2,570,672.5 | 6 | 2,570,672.5 | 5 | 2,570,672.5 | 4 | 2,570,672.5 | 6 | 2,570,672.5 | 10 |
| | 151 | 2,669,713.4 | 30 | 2,669,713.4 | 21 | 2,669,561.1 | 6 | 2,669,713.4 | 45 | 2,669,547.9 | 7 | 2,669,350.6 | 22 |

*Continued on next page*

Table 15 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| brd14051-c12-w60-3000-4000 | 51 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 |
| | 61 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 0 |
| | 71 | 1,437,981.7 | 1 | 1,437,981.7 | 1 | 1,437,981.7 | 1 | 1,437,981.7 | 1 | 1,437,981.7 | 1 | 1,437,981.7 | 1 |
| | 81 | 1,840,955.3 | 1 | 1,840,955.3 | 1 | 1,840,955.3 | 1 | 1,840,955.3 | 1 | 1,741,126.7 | 1 | 1,741,126.7 | 1 |
| | 91 | 1,641,774.1 | 3 | 1,641,774.1 | 4 | 1,641,774.1 | 4 | 1,641,774.1 | 3 | 1,641,774.1 | 4 | 1,641,774.1 | 4 |
| | 101 | 1,948,345.1 | 1 | 1,948,345.1 | 1 | 1,948,345.1 | 1 | 1,948,345.1 | 1 | 1,948,345.1 | 1 | 1,948,345.1 | 1 |
| | 111 | 1,645,847.9 | 3 | 1,645,847.9 | 3 | 1,645,847.9 | 3 | 1,645,847.9 | 3 | 1,645,847.9 | 3 | 1,645,846.5 | 5 |
| | 121 | 2,467,910.6 | 1 | 2,467,910.6 | 1 | 2,467,910.6 | 1 | 2,467,910.6 | 1 | 2,467,910.6 | 2 | 2,467,910.6 | 2 |
| | 131 | 2,471,150.7 | 1 | 2,471,150.7 | 1 | 2,471,150.7 | 1 | 2,471,090.7 | 1 | 2,471,090.7 | 1 | 2,471,090.7 | 1 |
| | 141 | 2,263,977.9 | 86 | 2,263,977.9 | 94 | 2,263,977.9 | 49 | 2,263,977.9 | 39 | 2,263,977.9 | 44 | 2,263,977.9 | 225 |
| | 151 | 2,471,200.0 | 12 | 2,471,200.0 | 14 | 2,471,200.0 | 17 | 2,471,200.0 | 12 | 2,471,200.0 | 19 | 2,471,200.0 | 228 |
| brd14051-c12-w75-3000-4000 | 51 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 0 | 1,125,805.1 | 1 | 1,125,805.1 | 1 |
| | 61 | 1,336,523.1 | 18 | 1,336,523.1 | 19 | 1,336,523.1 | 19 | 1,336,523.1 | 18 | 1,336,523.1 | 19 | 1,336,523.1 | 19 |
| | 71 | 1,435,649.4 | 1 | 1,435,649.4 | 1 | 1,435,630.5 | 2 | 1,435,649.4 | 1 | 1,435,505.6 | 1 | 1,435,387.3 | 4 |
| | 81 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 |
| | 91 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 101 | 1,953,966.7 | 1 | 1,953,966.7 | 2 | 1,953,966.7 | 2 | 1,953,966.7 | 2 | 1,953,966.7 | 1 | 1,953,966.7 | 2 |
| | 111 | 1,956,247.3 | 18 | 1,956,247.3 | 19 | 1,952,571.0 | 2 | 1,952,571.0 | 2 | 1,952,571.0 | 2 | 1,952,571.0 | 2 |
| | 121 | 2,058,036.6 | 2 | 2,058,036.6 | 2 | 2,058,036.6 | 2 | 2,058,036.6 | 2 | 2,058,036.6 | 2 | 2,058,036.6 | 2 |
| | 131 | 2,269,970.3 | 2 | 2,269,970.3 | 2 | 2,269,970.3 | 2 | 2,269,970.3 | 2 | 2,269,970.3 | 2 | 2,269,970.3 | 2 |
| | 141 | 1,955,300.6 | 573 | 1,955,300.6 | 371 | 1,955,300.6 | 469 | 1,955,300.6 | 409 | 1,954,777.6 | 617 | 1,954,777.6 | 729 |
| | 151 | 2,157,887.1 | 167 | 2,157,887.1 | 206 | 2,157,887.1 | 620 | 2,157,826.7 | 393 | 2,157,826.7 | 537 | 2,157,826.7 | 1540 |
| brd14051-c12-w90-3000-4000 | 51 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 | 1,227,677.9 | 0 |
| | 61 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 |
| | 71 | 1,331,535.0 | 1 | 1,331,535.0 | 1 | 1,331,535.0 | 1 | 1,331,535.0 | 1 | 1,331,535.0 | 1 | 1,331,535.0 | 1 |
| | 81 | 1,439,061.9 | 1 | 1,439,061.9 | 1 | 1,439,061.9 | 1 | 1,439,061.9 | 1 | 1,439,061.9 | 1 | 1,439,061.9 | 1 |
| | 91 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 2 |
| | 101 | 1,753,946.8 | 2 | 1,753,946.8 | 2 | 1,753,946.8 | 2 | 1,753,946.8 | 2 | 1,753,946.8 | 2 | 1,753,946.8 | 4 |
| | 111 | 1,543,281.4 | 4 | 1,543,281.4 | 5 | 1,543,281.4 | 5 | 1,543,281.4 | 4 | 1,543,281.4 | 4 | 1,543,281.4 | 7 |
| | 121 | 2,058,108.9 | 3 | 2,058,108.9 | 3 | 2,058,108.9 | 3 | 2,058,108.9 | 3 | 2,058,108.9 | 3 | 2,058,108.9 | 5 |
| | 131 | 2,267,028.5 | 4 | 2,267,028.5 | 4 | 2,267,028.5 | 4 | 2,168,676.4 | 4 | 2,168,676.4 | 4 | 2,168,676.4 | 6 |
| | 141 | 2,257,472.4 | 46 | 2,257,472.4 | 45 | 2,257,472.4 | 60 | 2,257,456.6 | 61 | 2,257,456.6 | 89 | 2,257,456.6 | 170 |
| | 151 | 2,058,134.3 | 65 | 2,058,134.3 | 72 | 2,058,134.3 | 65 | 2,058,134.3 | 78 | 2,058,134.3 | 86 | 2,058,134.3 | 273 |
| brd14051-c12-w120-3000-4000 | 51 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 | 1,124,615.8 | 0 |
| | 61 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 | 1,131,682.3 | 0 |
| | 71 | 1,234,372.4 | 1 | 1,234,372.4 | 1 | 1,234,372.4 | 1 | 1,234,372.4 | 1 | 1,234,372.4 | 1 | 1,234,372.4 | 1 |
| | 81 | 1,334,267.7 | 1 | 1,334,267.7 | 1 | 1,334,267.7 | 1 | 1,334,267.7 | 1 | 1,334,267.7 | 1 | 1,334,267.7 | 1 |
| | 91 | 1,542,519.6 | 1 | 1,542,519.6 | 1 | 1,542,519.6 | 2 | 1,542,519.6 | 1 | 1,542,519.6 | 2 | 1,542,519.6 | 2 |
| | 101 | 1,849,667.9 | 2 | 1,849,667.9 | 2 | 1,849,667.9 | 2 | 1,849,667.9 | 2 | 1,849,667.9 | 3 | 1,849,667.9 | 3 |
| | 111 | 1,542,246.9 | 11 | 1,542,246.9 | 11 | 1,541,765.6 | 6 | 1,542,246.9 | 12 | 1,542,246.9 | 12 | 1,541,765.6 | 10 |
| | 121 | 1,851,017.4 | 172 | 1,851,017.4 | 179 | 1,851,017.4 | 214 | 1,851,017.4 | 60 | 1,851,017.4 | 112 | 1,851,017.4 | 50 |
| | 131 | 1,960,142.2 | 3 | 1,960,142.2 | 3 | 1,960,142.2 | 3 | 1,960,130.5 | 8 | 1,960,130.5 | 9 | 1,959,781.7 | 4 |
| | 141 | 1,956,161.0 | 8 | 1,956,161.0 | 8 | 1,956,161.0 | 9 | 1,956,161.0 | 11 | 1,956,161.0 | 10 | 1,956,161.0 | 16 |
| | 151 | 1,954,811.3 | 42 | 1,954,811.3 | 34 | 1,954,811.3 | 80 | 1,954,811.3 | 50 | 1,954,811.3 | 114 | 1,954,774.6 | 429 |
| d18512-c12-w45-3000-4000 | 51 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 |
| | 61 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 |
| | 71 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 | 1,436,921.4 | 0 |
| | 81 | 1,335,928.0 | 0 | 1,335,928.0 | 0 | 1,335,928.0 | 1 | 1,335,928.0 | 1 | 1,335,928.0 | 1 | 1,335,928.0 | 1 |
| | 91 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 101 | 1,747,999.1 | 1 | 1,747,999.1 | 1 | 1,747,999.1 | 1 | 1,747,999.1 | 1 | 1,747,999.1 | 1 | 1,747,999.1 | 1 |
| | 111 | 2,059,333.7 | 2 | 2,059,333.7 | 2 | 2,059,333.7 | 2 | 2,059,333.7 | 2 | 2,058,893.3 | 2 | 2,058,893.3 | 2 |
| | 121 | 2,468,755.6 | 1 | 2,468,755.6 | 1 | 2,468,755.6 | 1 | 2,468,755.6 | 1 | 2,468,755.6 | 1 | 2,468,755.6 | 1 |
| | 131 | 2,265,093.3 | 11 | 2,265,093.3 | 9 | 2,265,093.3 | 12 | 2,265,093.3 | 10 | 2,265,093.3 | 11 | 2,265,093.3 | 9 |
| | 141 | 2,568,883.8 | 3 | 2,568,883.8 | 3 | 2,568,883.8 | 3 | 2,568,883.8 | 3 | 2,568,883.8 | 4 | 2,568,883.8 | 4 |
| | 151 | 2,466,471.7 | 12 | 2,466,471.7 | 12 | 2,466,471.7 | 12 | 2,466,471.7 | 12 | 2,466,218.3 | 14 | 2,466,218.3 | 13 |

*Continued on next page*

Table 15 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| d18512-c12-w60-3000-4000 | 51 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 |
| | 61 | 1,129,901.8 | 1 | 1,129,901.8 | 0 | 1,129,901.8 | 1 | 1,129,901.8 | 0 | 1,129,901.8 | 1 | 1,129,901.8 | 1 |
| | 71 | 1,433,624.5 | 1 | 1,433,624.5 | 1 | 1,433,624.5 | 1 | 1,433,624.5 | 1 | 1,433,624.5 | 1 | 1,433,624.5 | 1 |
| | 81 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 | 1,540,600.7 | 1 |
| | 91 | 1,848,182.2 | 3 | 1,848,182.2 | 3 | 1,746,716.6 | 1 | 1,746,641.4 | 1 | 1,746,641.4 | 1 | 1,746,641.4 | 1 |
| | 101 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 | 1,950,627.3 | 2 |
| | 111 | 2,161,004.7 | 1 | 2,161,004.7 | 1 | 2,161,004.7 | 1 | 2,161,004.7 | 2 | 2,161,004.7 | 2 | 2,161,004.7 | 2 |
| | 121 | 2,369,661.8 | 2 | 2,369,661.8 | 2 | 2,369,661.8 | 2 | 2,369,661.8 | 2 | 2,369,661.8 | 2 | 2,369,642.8 | 2 |
| | 131 | 2,163,559.7 | 3 | 2,163,559.7 | 3 | 2,163,559.7 | 4 | 2,163,559.7 | 3 | 2,163,559.7 | 4 | 2,163,559.7 | 5 |
| | 141 | 2,161,418.2 | 320 | 2,161,418.2 | 515 | 2,161,418.2 | 350 | 2,161,418.2 | 204 | 2,161,418.2 | 798 | 2,161,418.2 | 2025 |
| | 151 | 2,473,007.6 | 3 | 2,473,007.6 | 3 | 2,473,007.6 | 3 | 2,473,007.6 | 3 | 2,473,007.6 | 3 | 2,473,007.6 | 4 |
| d18512-c12-w75-3000-4000 | 51 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 | 1,130,084.2 | 0 |
| | 61 | 1,131,854.1 | 1 | 1,131,854.1 | 0 | 1,131,854.1 | 0 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 |
| | 71 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 |
| | 81 | 1,841,679.6 | 1 | 1,841,679.6 | 1 | 1,841,679.6 | 1 | 1,841,679.6 | 1 | 1,841,679.6 | 1 | 1,841,679.6 | 1 |
| | 91 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 1 | 1,537,205.4 | 2 |
| | 101 | 1,643,633.0 | 46 | 1,643,633.0 | 34 | 1,643,633.0 | 30 | 1,643,633.0 | 48 | 1,643,633.0 | 40 | 1,643,633.0 | 64 |
| | 111 | 1,855,565.0 | 6 | 1,855,565.0 | 6 | 1,855,565.0 | 6 | 1,855,565.0 | 7 | 1,855,423.0 | 3 | 1,854,886.1 | 11 |
| | 121 | 2,264,183.4 | 92 | 2,264,183.4 | 94 | 2,264,183.4 | 96 | 2,264,183.4 | 89 | 2,264,183.4 | 102 | 2,163,246.5 | 2 |
| | 131 | 2,158,915.8 | 3 | 2,158,915.8 | 3 | 2,158,915.8 | 3 | 2,158,915.8 | 3 | 2,158,915.8 | 3 | 2,158,915.8 | 3 |
| | 141 | 2,360,828.8 | 7 | 2,360,828.8 | 7 | 2,360,498.7 | 11 | 2,360,498.7 | 12 | 2,360,498.7 | 9 | 2,360,370.8 | 29 |
| | 151 | 2,265,668.4 | 38 | 2,265,668.4 | 39 | 2,265,668.4 | 108 | 2,265,668.4 | 36 | 2,265,668.4 | 51 | 2,164,779.4 | 35 |
| d18512-c12-w90-3000-4000 | 51 | 1,027,666.9 | 0 | 1,027,666.9 | 1 | 1,027,666.9 | 1 | 1,027,666.9 | 0 | 1,027,666.9 | 1 | 1,027,666.9 | 1 |
| | 61 | 1,230,407.4 | 125 | 1,230,407.4 | 126 | 1,230,407.4 | 128 | 1,230,407.4 | 130 | 1,230,407.4 | 133 | 1,230,407.4 | 144 |
| | 71 | 1,231,286.5 | 5 | 1,231,286.5 | 5 | 1,231,286.5 | 5 | 1,231,286.5 | 5 | 1,231,178.5 | 4 | 1,231,178.5 | 4 |
| | 81 | 1,438,394.4 | 1 | 1,438,394.4 | 1 | 1,438,394.4 | 1 | 1,438,394.4 | 1 | 1,438,394.4 | 1 | 1,438,394.4 | 1 |
| | 91 | 1,844,462.9 | 1 | 1,844,462.9 | 1 | 1,844,294.9 | 1 | 1,844,462.9 | 1 | 1,844,462.9 | 1 | 1,844,294.9 | 1 |
| | 101 | 1,643,806.7 | 2 | 1,643,806.7 | 2 | 1,643,806.7 | 2 | 1,643,806.7 | 1 | 1,643,806.7 | 2 | 1,643,806.7 | 2 |
| | 111 | 2,051,359.9 | 2 | 2,051,359.9 | 2 | 2,051,359.9 | 3 | 2,051,359.9 | 2 | 2,051,359.9 | 2 | 2,051,359.9 | 3 |
| | 121 | 2,059,222.6 | 2 | 2,059,222.6 | 2 | 2,059,222.6 | 2 | 2,059,222.6 | 2 | 2,059,222.6 | 3 | 2,059,222.6 | 3 |
| | 131 | 2,057,213.9 | 3 | 2,057,213.9 | 3 | 2,057,213.9 | 3 | 2,057,213.9 | 3 | 2,057,213.9 | 3 | 2,057,213.9 | 5 |
| | 141 | 1,956,805.8 | 8 | 1,956,805.8 | 8 | 1,956,805.8 | 10 | 1,956,805.8 | 8 | 1,956,805.8 | 9 | 1,956,805.8 | 14 |
| | 151 | – | – | 2,468,639.9 | 30 | 2,468,639.9 | 30 | – | – | 2,468,639.9 | 43 | 2,468,639.9 | 45 |
| d18512-c12-w120-3000-4000 | 51 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 | 1,130,588.4 | 0 |
| | 61 | 1,131,742.3 | 0 | 1,131,742.3 | 0 | 1,131,742.3 | 0 | 1,131,742.3 | 0 | 1,131,742.3 | 0 | 1,131,742.3 | 1 |
| | 71 | 1,331,635.4 | 2 | 1,331,635.4 | 2 | 1,331,635.4 | 2 | 1,331,635.4 | 2 | 1,331,635.4 | 2 | 1,331,635.4 | 2 |
| | 81 | 1,333,926.8 | 2 | 1,333,926.8 | 2 | 1,333,926.8 | 3 | 1,333,926.8 | 2 | 1,333,926.8 | 2 | 1,333,926.8 | 3 |
| | 91 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 1 | 1,541,793.5 | 1 | 1,541,793.5 | 2 |
| | 101 | 1,646,717.4 | 6 | 1,646,717.4 | 6 | 1,646,717.4 | 6 | 1,646,717.4 | 8 | 1,646,717.4 | 7 | 1,646,717.4 | 12 |
| | 111 | 1,752,363.4 | 101 | 1,752,363.4 | 98 | 1,752,363.4 | 68 | 1,752,363.4 | 81 | 1,752,363.4 | 85 | 1,752,363.4 | 73 |
| | 121 | 2,164,081.0 | 2 | 2,164,081.0 | 2 | 2,164,081.0 | 2 | 2,164,081.0 | 2 | 2,164,081.0 | 2 | 2,164,081.0 | 3 |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | 2,055,819.6 | 207 | 2,055,819.6 | 186 | 2,055,819.6 | 459 | 2,055,721.4 | 527 | 2,055,721.4 | 709 | 1,958,105.3 | 343 |
| | 151 | 2,161,451.8 | 20 | 2,161,451.8 | 19 | 2,161,451.8 | 101 | 2,161,451.8 | 41 | 2,161,451.8 | 77 | 2,161,451.8 | 569 |
| fn14461-c12-w45-3000-4000 | 51 | 815,004.5 | 0 | 815,004.5 | 0 | 815,004.5 | 0 | 815,004.5 | 0 | 815,004.5 | 0 | 815,004.5 | 0 |
| | 61 | 1,219,460.2 | 0 | 1,219,460.2 | 0 | 1,219,460.2 | 0 | 1,219,460.2 | 0 | 1,219,460.2 | 1 | 1,219,460.2 | 1 |
| | 71 | 918,107.5 | 1 | 918,107.5 | 1 | 918,107.5 | 2 | 918,107.5 | 1 | 918,107.5 | 1 | 918,107.5 | 2 |
| | 81 | 1,020,093.6 | 2 | 1,020,093.6 | 2 | 1,020,093.6 | 2 | 1,020,093.6 | 2 | 1,020,093.6 | 2 | 1,020,093.6 | 2 |
| | 91 | 1,121,945.7 | 58 | 1,121,945.7 | 44 | 1,121,945.7 | 77 | 1,121,945.7 | 59 | 1,121,945.7 | 46 | 1,121,945.7 | 62 |
| | 101 | 1,328,553.1 | 28 | 1,328,553.1 | 29 | 1,328,553.1 | 27 | 1,328,553.1 | 19 | 1,328,553.1 | 34 | 1,328,539.5 | 42 |
| | 111 | 1,430,008.8 | 17 | 1,430,008.8 | 19 | 1,430,008.8 | 24 | 1,430,008.8 | 22 | 1,430,008.8 | 23 | 1,430,008.8 | 29 |
| | 121 | 1,533,070.3 | 50 | 1,533,070.3 | 50 | 1,533,070.3 | 54 | 1,533,070.3 | 87 | 1,533,070.3 | 202 | 1,532,509.0 | 21 |
| | 131 | 1,641,237.4 | 9 | 1,641,237.4 | 9 | 1,641,237.4 | 9 | 1,641,237.4 | 27 | 1,641,237.4 | 27 | 1,641,237.4 | 46 |
| | 141 | 1,742,844.9 | 13 | 1,742,844.9 | 21 | 1,742,844.9 | 39 | 1,742,844.9 | 12 | 1,742,844.9 | 57 | 1,742,844.9 | 84 |
| | 151 | 1,740,127.0 | 47 | 1,740,127.0 | 40 | 1,740,127.0 | 33 | 1,740,127.0 | 75 | 1,740,127.0 | 42 | 1,740,127.0 | 89 |

*Continued on next page*

Table 15 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| fnl4461-c12-w60-3000-4000 | 51 | 716,876.8 | 1 | 716,876.8 | 1 | 716,876.8 | 1 | 716,269.7 | 1 | 716,269.7 | 1 | 716,269.7 | 1 |
| | 61 | 816,057.5 | 1 | 816,057.5 | 1 | 816,057.5 | 1 | 816,057.5 | 1 | 816,057.5 | 1 | 816,057.5 | 1 |
| | 71 | 918,331.1 | 20 | 917,783.3 | 3 | 917,783.3 | 3 | 918,331.1 | 23 | 917,783.3 | 4 | 917,783.3 | 6 |
| | 81 | 1,021,113.1 | 5 | 1,021,113.1 | 6 | 1,021,113.1 | 6 | 1,021,113.1 | 5 | 1,021,113.1 | 9 | 1,021,113.1 | 10 |
| | 91 | 1,021,866.2 | 2 | 1,021,866.2 | 2 | 1,021,866.2 | 2 | 1,021,866.2 | 2 | 1,021,866.2 | 3 | 1,021,866.2 | 4 |
| | 101 | 1,226,318.5 | 61 | 1,226,318.5 | 86 | 1,226,318.5 | 101 | 1,226,318.5 | 183 | 1,226,318.5 | 348 | 1,226,318.5 | 669 |
| | 111 | 1,330,755.8 | 134 | 1,330,755.8 | 166 | 1,330,610.0 | 80 | 1,330,755.8 | 129 | 1,330,755.8 | 133 | 1,329,806.8 | 18 |
| | 121 | 1,331,615.8 | 130 | 1,331,615.8 | 131 | 1,331,615.8 | 121 | 1,331,615.8 | 129 | 1,331,615.8 | 164 | 1,331,615.8 | 275 |
| | 131 | 1,637,466.2 | 370 | 1,637,466.2 | 291 | 1,540,427.5 | 20 | 1,637,466.2 | 253 | 1,637,466.2 | 256 | 1,540,388.5 | 55 |
| | 141 | 1,539,555.4 | 2583 | 1,539,555.4 | 2830 | – | – | 1,539,555.4 | 1529 | 1,539,555.4 | 1689 | 1,538,683.9 | 2938 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w75-3000-4000 | 51 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 | 814,113.1 | 1 |
| | 61 | 816,591.5 | 1 | 816,591.5 | 1 | 816,591.5 | 1 | 816,591.5 | 1 | 816,591.5 | 1 | 816,591.5 | 1 |
| | 71 | 917,864.6 | 3 | 917,864.6 | 3 | 917,864.6 | 3 | 819,747.4 | 1 | 819,747.4 | 1 | 819,747.4 | 2 |
| | 81 | 1,019,808.3 | 4 | 1,019,808.3 | 4 | 1,019,808.3 | 5 | 1,019,808.3 | 4 | 1,019,808.3 | 5 | 1,019,808.3 | 7 |
| | 91 | 1,024,125.5 | 5 | 1,024,125.5 | 5 | 1,023,953.6 | 7 | 1,024,125.5 | 6 | 1,023,953.6 | 8 | 1,023,953.6 | 11 |
| | 101 | 1,326,784.8 | 161 | 1,326,784.8 | 163 | 1,326,784.8 | 101 | 1,326,784.8 | 124 | 1,326,784.8 | 111 | 1,326,784.8 | 158 |
| | 111 | 1,229,043.6 | 141 | 1,229,043.6 | 145 | 1,229,043.6 | 194 | 1,229,043.6 | 110 | 1,229,043.6 | 171 | 1,228,957.0 | 303 |
| | 121 | 1,430,840.2 | 34 | 1,430,840.2 | 35 | 1,430,840.2 | 72 | 1,430,840.2 | 125 | 1,430,840.2 | 124 | 1,335,982.3 | 59 |
| | 131 | 1,435,824.6 | 1016 | 1,435,824.6 | 979 | 1,435,824.6 | 1991 | 1,435,824.6 | 1206 | 1,435,686.9 | 1111 | 1,435,409.8 | 587 |
| | 141 | 1,638,697.5 | 1720 | 1,638,697.5 | 1796 | 1,638,697.5 | 1996 | 1,638,697.5 | 1680 | 1,638,697.5 | 2311 | 1,638,111.1 | 556 |
| | 151 | 1,541,573.7 | 2033 | 1,541,573.7 | 2537 | 1,541,573.7 | 3232 | – | – | – | – | – | – |
| fnl4461-c12-w90-3000-4000 | 51 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 |
| | 61 | 818,646.7 | 71 | 818,646.7 | 72 | 818,646.7 | 83 | 818,646.7 | 109 | 818,646.7 | 117 | 818,646.7 | 179 |
| | 71 | 915,960.7 | 19 | 915,960.7 | 20 | 817,372.0 | 2 | 817,372.0 | 2 | 817,341.4 | 2 | 817,338.0 | 8 |
| | 81 | 921,936.9 | 4 | 921,936.9 | 4 | 921,936.9 | 4 | 921,936.9 | 4 | 921,936.9 | 5 | 921,936.9 | 5 |
| | 91 | 1,023,591.2 | 7 | 1,023,591.2 | 7 | 1,023,591.2 | 26 | 1,023,591.2 | 7 | 1,023,591.2 | 26 | 1,023,591.2 | 69 |
| | 101 | 1,226,577.4 | 404 | 1,226,557.8 | 413 | 1,226,542.2 | 791 | 1,226,549.6 | 431 | 1,226,542.2 | 748 | 1,226,471.4 | 1215 |
| | 111 | 1,228,760.8 | 132 | 1,228,760.8 | 150 | 1,228,760.8 | 202 | 1,228,760.8 | 307 | 1,228,691.2 | 182 | 1,228,691.2 | 417 |
| | 121 | 1,431,905.3 | 230 | 1,431,905.3 | 214 | 1,431,665.9 | 144 | 1,431,905.3 | 335 | 1,431,905.3 | 447 | 1,431,647.7 | 324 |
| | 131 | 1,233,235.1 | 267 | 1,233,235.1 | 323 | 1,233,235.1 | 451 | 1,233,006.8 | 356 | 1,233,006.8 | 425 | 1,233,006.8 | 1035 |
| | 141 | 1,435,997.3 | 187 | 1,435,997.3 | 265 | 1,435,678.2 | 1346 | 1,435,997.3 | 259 | – | – | 1,435,678.2 | 2370 |
| | 151 | 1,543,289.7 | 2202 | 1,543,289.7 | 3213 | 1,543,289.7 | 2831 | 1,543,289.7 | 2595 | 1,541,659.3 | 3122 | – | – |
| fnl4461-c12-w120-3000-4000 | 51 | 611,013.6 | 2 | 611,013.6 | 3 | 611,013.6 | 3 | 611,013.6 | 4 | 611,013.6 | 4 | 611,001.5 | 7 |
| | 61 | 714,610.3 | 27 | 714,610.3 | 24 | 714,610.3 | 31 | 714,610.3 | 26 | 714,610.3 | 19 | 714,610.3 | 60 |
| | 71 | 716,005.1 | 9 | 716,005.1 | 10 | 716,005.1 | 11 | 716,005.1 | 11 | 716,005.1 | 14 | 715,786.4 | 15 |
| | 81 | 819,628.5 | 10 | 819,625.6 | 11 | 819,625.6 | 12 | 819,628.5 | 11 | 819,625.6 | 18 | 819,625.6 | 36 |
| | 91 | 918,777.5 | 401 | 918,777.5 | 1622 | 820,971.9 | 596 | 918,777.5 | 402 | 918,777.5 | 2665 | 820,971.9 | 2073 |
| | 101 | 1,126,019.9 | 27 | 1,126,019.9 | 23 | 1,126,019.9 | 104 | 1,126,019.9 | 105 | 1,126,019.9 | 135 | 1,126,019.9 | 1207 |
| | 111 | 1,124,638.6 | 760 | 1,124,638.6 | 806 | 1,124,638.6 | 1407 | 1,124,638.6 | 1087 | 1,124,638.6 | 1189 | – | – |
| | 121 | – | – | – | – | 1,229,208.2 | 452 | – | – | 1,229,561.3 | 2642 | 1,229,208.1 | 1583 |
| | 131 | 1,231,040.8 | 3346 | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| nrw1379-c12-w45-3000-4000 | 51 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 |
| | 61 | 1,018,665.0 | 2 | 1,018,665.0 | 2 | 1,018,665.0 | 2 | 1,018,665.0 | 2 | 1,018,665.0 | 3 | 1,018,665.0 | 3 |
| | 71 | 1,121,433.5 | 1 | 1,121,433.5 | 1 | 1,121,433.5 | 1 | 1,121,433.5 | 1 | 1,121,364.0 | 1 | 1,121,364.0 | 1 |
| | 81 | 1,231,263.9 | 1 | 1,231,263.9 | 1 | 1,231,263.9 | 1 | 1,231,263.9 | 1 | 1,231,263.9 | 1 | 1,231,263.9 | 1 |
| | 91 | 1,427,548.6 | 2 | 1,427,548.6 | 2 | 1,427,548.6 | 2 | 1,427,548.6 | 2 | 1,427,548.6 | 2 | 1,427,548.6 | 2 |
| | 101 | 1,330,089.2 | 3 | 1,330,089.2 | 3 | 1,330,089.2 | 3 | 1,330,089.2 | 4 | 1,330,089.2 | 5 | 1,330,089.2 | 5 |
| | 111 | 1,534,358.5 | 9 | 1,534,358.5 | 10 | 1,534,358.5 | 11 | 1,534,358.5 | 10 | 1,534,358.5 | 11 | 1,534,358.5 | 14 |
| | 121 | 1,638,838.2 | 60 | 1,638,838.2 | 57 | 1,638,838.2 | 59 | 1,638,838.2 | 65 | 1,638,838.2 | 69 | 1,638,838.2 | 72 |
| | 131 | 1,940,442.6 | 39 | 1,940,442.6 | 42 | 1,940,442.6 | 43 | 1,940,442.6 | 34 | 1,940,442.6 | 52 | 1,940,362.4 | 42 |
| | 141 | 2,146,691.9 | 369 | 2,146,691.9 | 488 | 2,146,691.9 | 565 | 2,146,691.9 | 193 | 2,146,577.1 | 492 | 2,146,277.0 | 508 |
| | 151 | 2,149,929.4 | 7 | 2,149,929.4 | 5 | 2,149,929.4 | 6 | 2,149,929.4 | 5 | 2,149,929.4 | 5 | 2,149,929.4 | 6 |

*Continued on next page*

Table 15 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| nrw1379-c12-w60-3000-4000 | 51 | 814,734.2 | 1 | 814,734.2 | 1 | 814,734.2 | 1 | 714,362.0 | 1 | 714,362.0 | 1 | 714,362.0 | 1 |
| | 61 | 818,866.5 | 1 | 818,866.5 | 1 | 818,866.5 | 1 | 818,866.5 | 1 | 818,866.5 | 1 | 818,866.5 | 2 |
| | 71 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 1 |
| | 81 | 1,226,945.6 | 1 | 1,226,945.6 | 1 | 1,226,945.6 | 1 | 1,226,945.6 | 1 | 1,226,945.6 | 1 | 1,226,945.6 | 1 |
| | 91 | 1,229,194.4 | 42 | 1,229,194.4 | 46 | 1,229,194.4 | 50 | 1,228,551.9 | 17 | 1,228,551.9 | 24 | 1,228,551.9 | 21 |
| | 101 | 1,430,389.7 | 2 | 1,430,389.7 | 2 | 1,430,389.7 | 2 | 1,430,389.7 | 2 | 1,430,389.7 | 3 | 1,430,389.7 | 3 |
| | 111 | 1,635,527.5 | 7 | 1,635,527.5 | 7 | 1,635,510.3 | 7 | 1,635,527.5 | 7 | 1,635,527.5 | 8 | 1,635,510.3 | 9 |
| | 121 | 1,540,381.8 | 16 | 1,540,381.8 | 19 | 1,539,728.1 | 15 | 1,539,728.1 | 15 | 1,539,728.1 | 18 | 1,539,728.1 | 25 |
| | 131 | 1,637,848.9 | 11 | 1,637,848.9 | 11 | 1,637,848.9 | 13 | 1,637,848.9 | 11 | 1,637,848.9 | 13 | 1,637,063.8 | 12 |
| | 141 | 2,046,246.6 | 10 | 2,046,246.6 | 13 | 1,948,052.6 | 7 | 2,046,246.6 | 12 | 2,046,246.6 | 70 | 1,948,052.6 | 10 |
| | 151 | 1,844,974.1 | 370 | 1,844,974.1 | 539 | 1,844,974.1 | 937 | 1,844,974.1 | 1079 | 1,844,467.8 | 1651 | – | – |
| nrw1379-c12-w75-3000-4000 | 51 | 919,078.2 | 0 | 919,078.2 | 0 | 919,078.2 | 1 | 919,078.2 | 0 | 919,078.2 | 0 | 919,078.2 | 0 |
| | 61 | 1,019,550.8 | 2 | 1,019,550.8 | 2 | 1,019,550.8 | 2 | 1,019,550.8 | 2 | 1,019,550.8 | 2 | 1,019,550.8 | 2 |
| | 71 | 1,021,726.8 | 1 | 1,021,726.8 | 1 | 1,021,726.8 | 2 | 1,021,726.8 | 1 | 1,021,726.8 | 1 | 1,021,418.9 | 1 |
| | 81 | 1,125,293.2 | 2 | 1,125,293.2 | 2 | 1,125,293.2 | 2 | 1,026,106.6 | 1 | 1,026,106.6 | 1 | 1,026,106.6 | 2 |
| | 91 | 1,229,438.5 | 2 | 1,229,438.5 | 2 | 1,229,438.5 | 2 | 1,229,438.5 | 2 | 1,229,438.5 | 2 | 1,229,438.5 | 3 |
| | 101 | 1,227,186.1 | 4 | 1,227,041.5 | 5 | 1,227,041.5 | 5 | 1,227,186.1 | 4 | 1,227,041.5 | 5 | 1,227,041.5 | 6 |
| | 111 | 1,533,735.8 | 57 | 1,533,735.8 | 68 | 1,533,735.8 | 67 | 1,533,735.8 | 84 | 1,533,735.8 | 66 | 1,533,379.3 | 36 |
| | 121 | 1,531,467.4 | 37 | 1,531,084.3 | 20 | 1,531,084.3 | 25 | 1,531,467.4 | 47 | 1,531,084.3 | 18 | 1,531,084.3 | 17 |
| | 131 | 1,638,044.6 | 550 | 1,638,044.6 | 611 | 1,638,044.6 | 397 | 1,638,044.6 | 770 | 1,638,019.6 | 1269 | 1,637,786.6 | 1608 |
| | 141 | 1,742,207.8 | 3005 | 1,742,207.8 | 2956 | – | – | 1,742,207.8 | 3333 | – | – | 1,741,500.8 | 3383 |
| | 151 | 1,744,362.6 | 156 | 1,744,362.6 | 186 | 1,744,362.6 | 396 | 1,744,362.6 | 178 | 1,744,362.6 | 232 | 1,744,362.6 | 2020 |
| nrw1379-c12-w90-3000-4000 | 51 | 815,989.4 | 1 | 815,989.4 | 1 | 815,989.4 | 1 | 815,989.4 | 1 | 815,989.4 | 1 | 815,989.4 | 1 |
| | 61 | 1,323,741.0 | 1 | 1,323,741.0 | 1 | 1,323,741.0 | 1 | 1,323,741.0 | 1 | 1,323,741.0 | 1 | 1,323,741.0 | 1 |
| | 71 | 1,022,166.9 | 8 | 1,022,166.9 | 10 | 1,022,166.9 | 12 | 1,022,166.9 | 13 | 1,022,166.9 | 19 | 1,022,166.9 | 50 |
| | 81 | 1,026,620.6 | 5 | 1,026,620.6 | 5 | 1,026,608.3 | 5 | 1,026,620.6 | 6 | 1,026,620.6 | 8 | 1,026,608.3 | 22 |
| | 91 | 1,324,826.6 | 6 | 1,324,826.6 | 7 | 1,324,826.6 | 6 | 1,324,826.6 | 6 | 1,324,826.6 | 7 | 1,324,826.6 | 15 |
| | 101 | 1,428,047.9 | 4 | 1,428,047.9 | 5 | 1,428,047.9 | 5 | 1,428,047.9 | 5 | 1,428,047.9 | 6 | 1,428,047.9 | 8 |
| | 111 | 1,230,496.0 | 4 | 1,230,496.0 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 5 | 1,230,435.8 | 7 | 1,230,435.8 | 6 |
| | 121 | 1,334,547.3 | 6 | 1,334,547.3 | 6 | 1,334,547.3 | 7 | 1,334,547.3 | 6 | 1,334,503.5 | 6 | 1,334,503.5 | 8 |
| | 131 | 1,335,298.7 | 22 | 1,335,298.7 | 31 | 1,335,298.7 | 33 | 1,335,296.1 | 37 | 1,335,136.5 | 75 | 1,335,136.5 | 110 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,639,217.5 | 15 | 1,639,217.5 | 17 | 1,639,217.5 | 16 | 1,639,199.3 | 88 | 1,639,199.3 | 97 | 1,639,199.3 | 67 |
| nrw1379-c12-w120-3000-4000 | 51 | 716,006.6 | 1 | 716,006.6 | 1 | 716,006.6 | 1 | 716,006.6 | 1 | 716,006.6 | 2 | 716,006.6 | 3 |
| | 61 | 919,057.9 | 1 | 919,057.9 | 1 | 919,057.9 | 1 | 919,057.9 | 1 | 919,057.9 | 1 | 919,057.9 | 1 |
| | 71 | 1,023,301.1 | 2 | 1,023,301.1 | 3 | 1,023,243.4 | 3 | 1,023,301.1 | 2 | 1,023,301.1 | 3 | 1,023,069.7 | 4 |
| | 81 | 1,024,492.1 | 8 | 1,024,492.1 | 9 | 1,024,492.1 | 9 | 1,024,492.1 | 10 | 1,024,492.1 | 11 | 1,024,492.1 | 31 |
| | 91 | 1,123,327.0 | 8 | 1,123,327.0 | 8 | 1,123,327.0 | 23 | 1,123,327.0 | 8 | 1,123,327.0 | 17 | 1,123,327.0 | 42 |
| | 101 | 1,230,985.8 | 7 | 1,230,985.8 | 8 | 1,230,985.8 | 11 | 1,230,985.8 | 9 | 1,230,985.8 | 11 | 1,230,985.8 | 66 |
| | 111 | 1,233,853.1 | 173 | 1,233,853.1 | 200 | 1,233,853.1 | 407 | 1,233,853.1 | 198 | 1,233,853.1 | 189 | 1,233,853.1 | 310 |
| | 121 | 1,335,378.3 | 1583 | 1,335,378.3 | 1717 | – | – | 1,335,378.3 | 3373 | – | – | – | – |
| | 131 | 1,535,818.5 | 3073 | 1,535,818.5 | 2682 | 1,441,502.2 | 709 | – | – | 1,535,611.2 | 2961 | – | – |
| | 141 | 1,640,697.3 | 152 | 1,640,463.4 | 112 | 1,640,462.4 | 123 | 1,640,697.3 | 161 | 1,640,463.4 | 69 | 1,640,255.4 | 197 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| Solved | | | 285 | | 286 | | 284 | | 281 | | 281 | | 276 |
| ∅ Time | | | 204.6 | | 204.4 | | 199.1 | | 191.3 | | 214.9 | | 187.1 |

**Table 16: Detailed computational results $\delta = 25$ and with three stacks**

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w15-500-1000 | 51 | 704,424.6 | 0 | 704,424.6 | 0 | 704,424.6 | 0 | 704,424.6 | 0 | 704,424.6 | 0 | 704,424.6 | 0 |
| | 61 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 |
| | 71 | 905,856.9 | 4 | 905,856.9 | 4 | 905,856.9 | 4 | 905,856.9 | 4 | 905,856.9 | 4 | 905,856.9 | 6 |
| | 81 | 1,307,742.8 | 3 | 1,307,742.8 | 3 | 1,307,742.8 | 3 | 1,307,742.8 | 3 | 1,307,742.8 | 4 | 1,307,742.8 | 5 |
| | 91 | 1,308,213.1 | 20 | 1,308,213.1 | 20 | 1,308,213.1 | 18 | 1,308,213.1 | 21 | 1,308,213.1 | 22 | 1,308,213.1 | 52 |
| | 101 | 1,510,445.5 | 2 | 1,510,445.5 | 2 | 1,510,445.5 | 2 | 1,510,445.5 | 2 | 1,510,445.5 | 3 | 1,510,445.5 | 3 |
| | 111 | 1,712,122.1 | 1 | 1,712,122.1 | 1 | 1,712,122.1 | 1 | 1,712,122.1 | 1 | 1,712,122.1 | 1 | 1,712,122.1 | 2 |
| | 121 | 1,512,240.4 | 100 | 1,512,240.4 | 101 | 1,512,240.4 | 103 | 1,512,240.4 | 109 | 1,512,240.4 | 114 | 1,512,240.4 | 154 |
| | 131 | 1,711,998.8 | 22 | 1,711,998.8 | 22 | 1,711,998.8 | 22 | 1,711,998.8 | 23 | 1,711,998.8 | 24 | 1,711,998.8 | 31 |
| | 141 | 1,913,233.6 | 18 | 1,913,233.6 | 18 | 1,913,233.6 | 19 | 1,913,233.6 | 19 | 1,913,233.6 | 17 | 1,913,233.6 | 27 |
| | 151 | 2,014,841.1 | 81 | 2,014,841.1 | 82 | 2,014,841.1 | 82 | 2,014,841.1 | 87 | 2,014,841.1 | 95 | 2,014,841.1 | 139 |
| a280-c12-w15-1000-1200 | 51 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 |
| | 61 | 804,876.2 | 0 | 804,876.2 | 0 | 804,876.2 | 0 | 804,876.2 | 0 | 804,876.2 | 0 | 804,876.2 | 1 |
| | 71 | 906,910.2 | 1 | 906,910.2 | 1 | 906,910.2 | 1 | 906,910.2 | 1 | 906,910.2 | 1 | 906,910.2 | 1 |
| | 81 | 1,207,401.8 | 2 | 1,207,401.8 | 2 | 1,207,401.8 | 2 | 1,207,401.8 | 2 | 1,207,401.8 | 2 | 1,207,401.8 | 2 |
| | 91 | 1,208,755.0 | 4 | 1,208,755.0 | 4 | 1,208,755.0 | 5 | 1,208,755.0 | 4 | 1,208,755.0 | 5 | 1,208,755.0 | 7 |
| | 101 | 1,209,308.7 | 14 | 1,209,308.7 | 14 | 1,209,308.7 | 15 | 1,209,308.7 | 15 | 1,209,308.7 | 16 | 1,209,308.7 | 20 |
| | 111 | 1,210,475.6 | 39 | 1,210,475.6 | 40 | 1,210,475.6 | 40 | 1,210,475.6 | 52 | 1,210,475.6 | 70 | 1,210,475.6 | 95 |
| | 121 | 1,109,911.1 | 510 | 1,109,911.1 | 523 | 1,109,911.1 | 533 | 1,109,911.1 | 480 | 1,109,911.1 | 623 | 1,109,911.1 | 862 |
| | 131 | 1,412,240.2 | 176 | 1,412,240.2 | 180 | 1,412,240.2 | 183 | 1,412,240.2 | 173 | 1,412,240.2 | 217 | 1,412,240.2 | 337 |
| | 141 | 1,713,062.8 | 6 | 1,713,062.8 | 6 | 1,713,062.8 | 6 | 1,713,062.8 | 6 | 1,713,062.8 | 8 | 1,713,062.8 | 11 |
| | 151 | 1,614,370.8 | 694 | 1,614,370.8 | 708 | 1,614,370.8 | 710 | 1,614,370.8 | 665 | 1,614,370.8 | 588 | 1,614,370.8 | 1174 |
| a280-c12-w15-1500-2000 | 51 | 503,723.8 | 2 | 503,723.8 | 2 | 503,723.8 | 2 | 503,723.8 | 2 | 503,723.8 | 2 | 503,723.8 | 2 |
| | 61 | 604,845.9 | 2 | 604,845.9 | 2 | 604,845.9 | 2 | 604,845.9 | 4 | 604,845.9 | 4 | 604,845.9 | 6 |
| | 71 | 705,606.3 | 98 | 705,606.3 | 100 | 705,606.3 | 101 | 705,606.3 | 91 | 705,606.3 | 113 | 705,606.3 | 211 |
| | 81 | 806,242.2 | 11 | 806,242.2 | 12 | 806,242.2 | 11 | 806,242.2 | 13 | 806,242.2 | 15 | 806,242.2 | 22 |
| | 91 | 808,044.4 | 104 | 808,044.4 | 107 | 808,044.4 | 108 | 808,044.4 | 91 | 808,044.4 | 121 | 807,946.3 | 110 |
| | 101 | 908,018.0 | 159 | 908,018.0 | 163 | 908,018.0 | 163 | 908,018.0 | 196 | 908,018.0 | 217 | 908,018.0 | 256 |
| | 111 | 1,110,123.7 | 3189 | 1,110,123.7 | 3301 | 1,110,123.7 | 3308 | 1,110,123.7 | 3404 | – | – | – | – |
| | 121 | 1,110,087.4 | 3464 | 1,110,087.4 | 3528 | 1,110,087.4 | 3583 | 1,110,087.4 | 3494 | 1,110,046.4 | 2560 | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-500-1000 | 51 | 604,267.6 | 0 | 604,267.6 | 0 | 604,267.6 | 0 | 604,267.6 | 0 | 604,267.6 | 1 | 604,267.6 | 0 |
| | 61 | 804,366.7 | 4 | 804,366.7 | 5 | 804,366.7 | 4 | 804,366.7 | 4 | 804,366.7 | 5 | 705,254.5 | 22 |
| | 71 | 806,613.1 | 2 | 806,613.1 | 2 | 806,613.1 | 2 | 806,613.1 | 2 | 806,613.1 | 2 | 806,613.1 | 3 |
| | 81 | 1,106,833.7 | 15 | 1,106,833.7 | 16 | 1,106,833.7 | 16 | 1,106,833.7 | 16 | 1,106,833.7 | 17 | 1,106,833.7 | 20 |
| | 91 | 1,207,973.2 | 29 | 1,207,973.2 | 31 | 1,207,973.2 | 32 | 1,207,973.2 | 25 | 1,207,973.2 | 28 | 1,207,890.8 | 34 |
| | 101 | 1,309,221.7 | 156 | 1,309,221.7 | 160 | 1,309,221.7 | 186 | 1,309,221.7 | 166 | 1,309,221.7 | 172 | 1,309,221.7 | 151 |
| | 111 | 1,310,076.2 | 662 | 1,310,076.2 | 661 | 1,310,076.2 | 759 | 1,310,076.2 | 957 | 1,310,076.2 | 870 | 1,310,047.0 | 1153 |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | 1,510,653.4 | 3317 | – | – | 1,510,653.4 | 3049 | – | – | – | – | 1,411,458.6 | 3594 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,612,535.6 | 915 | 1,612,535.6 | 930 | 1,612,535.6 | 1286 | 1,612,535.6 | 1148 | 1,612,535.6 | 1213 | 1,612,496.8 | 1829 |
| a280-c12-w30-1000-1200 | 51 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 |
| | 61 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 |
| | 71 | 805,998.7 | 26 | 805,998.7 | 27 | 805,998.7 | 28 | 805,998.7 | 28 | 805,998.7 | 32 | 805,998.7 | 70 |
| | 81 | 1,006,784.5 | 2 | 1,006,784.5 | 2 | 1,006,784.5 | 2 | 1,006,784.5 | 2 | 1,006,784.5 | 2 | 1,006,784.5 | 3 |
| | 91 | 1,107,908.4 | 22 | 1,107,908.4 | 22 | 1,107,908.4 | 23 | 1,107,908.4 | 23 | 1,107,908.4 | 25 | 1,107,908.4 | 34 |
| | 101 | 1,108,956.7 | 4 | 1,108,956.7 | 4 | 1,108,956.7 | 4 | 1,108,956.7 | 4 | 1,108,956.7 | 4 | 1,108,956.7 | 6 |
| | 111 | 1,210,549.5 | 40 | 1,210,549.5 | 40 | 1,210,549.5 | 41 | 1,210,549.5 | 42 | 1,210,549.5 | 40 | 1,210,549.5 | 28 |
| | 121 | 1,410,896.6 | 129 | 1,410,896.6 | 130 | 1,410,896.6 | 135 | 1,410,896.6 | 128 | 1,410,896.6 | 150 | 1,410,896.6 | 198 |
| | 131 | 1,209,966.1 | 1237 | 1,209,966.1 | 1249 | 1,209,966.1 | 1268 | 1,209,966.1 | 1001 | 1,209,966.1 | 1312 | 1,209,966.1 | 2732 |
| | 141 | 1,411,699.4 | 2531 | 1,411,699.4 | 2586 | 1,411,699.4 | 2755 | 1,411,699.4 | 2231 | 1,411,699.4 | 2077 | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |

*Continued on next page*

Table 16 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w30-1500-2000 | 51 | 503,573.6 | 30 | 503,573.6 | 30 | 503,573.6 | 34 | 503,573.6 | 31 | 503,573.6 | 30 | 503,573.6 | 43 |
| | 61 | 504,609.4 | 12 | 504,609.4 | 13 | 504,609.4 | 17 | 504,609.4 | 14 | 504,609.4 | 18 | 504,609.4 | 66 |
| | 71 | 705,313.7 | 50 | 705,313.7 | 51 | 705,313.7 | 57 | 705,313.7 | 82 | 705,313.7 | 132 | 705,313.7 | 247 |
| | 81 | 706,309.4 | 30 | 706,309.4 | 37 | 706,309.4 | 36 | 706,309.4 | 44 | 706,309.4 | 50 | 706,309.4 | 127 |
| | 91 | 706,911.1 | 911 | 706,911.1 | 930 | 706,911.1 | 1047 | 706,911.1 | 1120 | 706,911.1 | 999 | 706,911.1 | 1971 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | 809,212.5 | 542 | 809,212.5 | 554 | 809,212.5 | 564 | 809,212.5 | 1380 | 809,212.5 | 1401 | 809,212.5 | 2383 |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-500-1000 | 51 | 604,197.8 | 2 | 604,197.8 | 2 | 604,197.8 | 2 | 604,197.8 | 2 | 604,197.8 | 2 | 604,197.8 | 3 |
| | 61 | 704,176.0 | 97 | 704,176.0 | 97 | 704,176.0 | 95 | 704,176.0 | 98 | 704,176.0 | 97 | 704,176.0 | 148 |
| | 71 | 805,301.3 | 340 | 805,301.3 | 341 | 805,301.3 | 343 | 805,301.3 | 403 | 805,301.3 | 403 | 805,290.3 | 357 |
| | 81 | 906,585.6 | 27 | 906,585.6 | 26 | 906,585.6 | 28 | 906,445.5 | 14 | 906,409.1 | 13 | 906,409.1 | 24 |
| | 91 | 1,007,051.5 | 557 | 1,007,051.5 | 553 | 1,007,051.5 | 499 | 1,007,051.5 | 589 | 1,007,051.5 | 613 | 1,007,051.5 | 774 |
| | 101 | 1,208,901.9 | 160 | 1,208,901.9 | 161 | 1,208,901.9 | 161 | 1,208,901.9 | 164 | 1,208,901.9 | 163 | 1,208,901.9 | 227 |
| | 111 | 1,210,383.0 | 2042 | 1,210,383.0 | 2059 | 1,210,383.0 | 2478 | – | – | 1,210,383.0 | 3217 | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1000-1200 | 51 | 703,880.0 | 1 | 703,880.0 | 1 | 703,880.0 | 1 | 703,880.0 | 1 | 703,880.0 | 1 | 703,880.0 | 2 |
| | 61 | 603,773.0 | 3 | 603,773.0 | 3 | 603,773.0 | 3 | 603,773.0 | 3 | 603,773.0 | 3 | 603,773.0 | 4 |
| | 71 | 705,150.6 | 9 | 705,150.6 | 9 | 705,150.6 | 9 | 705,150.6 | 8 | 705,150.6 | 9 | 705,150.6 | 12 |
| | 81 | 806,567.3 | 31 | 806,567.3 | 32 | 806,567.3 | 33 | 806,567.3 | 32 | 806,567.3 | 37 | 806,567.3 | 45 |
| | 91 | 907,833.7 | 13 | 907,833.7 | 14 | 907,833.7 | 14 | 907,833.7 | 14 | 907,833.7 | 14 | 907,833.7 | 18 |
| | 101 | 1,108,755.7 | 1747 | 1,108,755.7 | 1795 | 1,108,755.7 | 1830 | 1,108,755.7 | 1766 | 1,108,755.7 | 2449 | 1,108,755.7 | 2938 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1500-2000 | 51 | 503,493.1 | 2 | 503,493.1 | 2 | 503,493.1 | 3 | 503,493.1 | 2 | 503,493.1 | 2 | 503,493.1 | 4 |
| | 61 | 604,088.7 | 36 | 604,088.7 | 37 | 604,088.7 | 35 | 604,088.7 | 33 | 604,088.7 | 40 | 604,088.7 | 82 |
| | 71 | – | – | – | – | 604,962.3 | 2564 | – | – | – | – | – | – |
| | 81 | 606,670.9 | 20 | 606,670.9 | 21 | 606,670.9 | 21 | 606,670.9 | 22 | 606,670.9 | 28 | 606,670.9 | 36 |
| | 91 | 806,620.6 | 177 | 806,620.6 | 187 | 806,620.6 | 176 | 806,620.6 | 225 | 806,608.9 | 199 | 806,608.9 | 1026 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| brd14051-c12-w45-3000-4000 | 51 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 |
| | 61 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| | 71 | 1,436,904.4 | 0 | 1,436,904.4 | 0 | 1,436,904.4 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 | 1,436,889.9 | 0 |
| | 81 | 1,336,362.8 | 8 | 1,336,362.8 | 8 | 1,336,362.8 | 8 | 1,336,362.8 | 9 | 1,336,362.8 | 9 | 1,336,264.6 | 7 |
| | 91 | 1,852,600.3 | 1 | 1,852,600.3 | 1 | 1,852,600.3 | 1 | 1,852,600.3 | 1 | 1,852,600.3 | 1 | 1,852,600.3 | 1 |
| | 101 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 |
| | 111 | 2,052,469.4 | 2 | 2,052,469.4 | 2 | 2,052,469.4 | 2 | 2,052,469.4 | 3 | 2,052,469.4 | 2 | 2,052,469.4 | 3 |
| | 121 | 2,057,345.9 | 224 | 2,057,345.9 | 224 | 2,057,345.9 | 224 | 2,057,345.9 | 213 | 2,057,345.9 | 218 | 2,057,345.9 | 228 |
| | 131 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 |
| | 141 | 2,469,518.3 | 3 | 2,469,518.3 | 3 | 2,468,928.4 | 3 | 2,469,518.3 | 2 | 2,469,518.3 | 2 | 2,468,906.2 | 4 |
| | 151 | 2,570,805.7 | 5 | 2,570,805.7 | 5 | 2,570,805.7 | 5 | 2,570,805.7 | 5 | 2,570,805.7 | 6 | 2,570,792.6 | 7 |

*Continued on next page*

Table 16 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| brd14051-c12-w60-3000-4000 | 51 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 |
| | 61 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 |
| | 71 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 |
| | 81 | 1,639,743.2 | 0 | 1,639,743.2 | 0 | 1,639,743.2 | 0 | 1,639,743.2 | 0 | 1,639,743.2 | 0 | 1,639,743.2 | 0 |
| | 91 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 |
| | 101 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 3 |
| | 111 | 1,645,837.7 | 3 | 1,645,837.7 | 3 | 1,645,837.7 | 3 | 1,645,837.7 | 3 | 1,645,837.7 | 4 | 1,645,833.3 | 5 |
| | 121 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 | 2,366,757.9 | 1 |
| | 131 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 |
| | 141 | 2,262,338.5 | 16 | 2,262,338.5 | 17 | 2,262,338.5 | 16 | 2,262,338.5 | 16 | 2,262,338.5 | 19 | 2,262,338.5 | 22 |
| | 151 | 2,469,933.7 | 270 | 2,469,933.7 | 279 | 2,469,933.7 | 1616 | 2,469,933.7 | 215 | 2,469,933.7 | 1597 | 2,469,933.7 | 2138 |
| brd14051-c12-w75-3000-4000 | 51 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 1 |
| | 61 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 |
| | 71 | 1,435,166.0 | 17 | 1,435,166.0 | 17 | 1,435,166.0 | 16 | 1,435,166.0 | 17 | 1,435,166.0 | 17 | 1,435,166.0 | 21 |
| | 81 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 | 1,639,992.6 | 1 |
| | 91 | – | – | – | – | 1,539,992.0 | 3380 | – | – | – | – | – | – |
| | 101 | 1,852,282.5 | 60 | 1,852,282.5 | 63 | 1,852,282.5 | 60 | 1,852,282.5 | 61 | 1,852,282.5 | 28 | 1,852,282.5 | 98 |
| | 111 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 1 | 1,852,474.0 | 2 | 1,852,474.0 | 2 | 1,852,474.0 | 2 |
| | 121 | 1,955,869.7 | 1 | 1,955,869.7 | 1 | 1,955,869.7 | 1 | 1,955,869.7 | 1 | 1,955,869.7 | 1 | 1,955,869.7 | 1 |
| | 131 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 2 |
| | 141 | 1,850,844.0 | 4 | 1,850,844.0 | 4 | 1,850,844.0 | 4 | 1,850,844.0 | 4 | 1,850,844.0 | 4 | 1,850,818.8 | 7 |
| | 151 | 2,055,711.3 | 13 | 2,055,711.3 | 14 | 2,055,711.3 | 12 | 2,055,711.3 | 26 | 2,055,711.3 | 27 | 2,055,249.8 | 23 |
| brd14051-c12-w90-3000-4000 | 51 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 |
| | 61 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 |
| | 71 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 |
| | 81 | 1,438,543.2 | 1 | 1,438,543.2 | 1 | 1,438,543.2 | 1 | 1,438,543.2 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 |
| | 91 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 1 | 1,842,307.4 | 2 |
| | 101 | 1,753,114.0 | 1 | 1,753,114.0 | 1 | 1,753,114.0 | 1 | 1,753,114.0 | 1 | 1,753,114.0 | 1 | 1,753,114.0 | 1 |
| | 111 | 1,543,281.4 | 4 | 1,543,281.4 | 4 | 1,543,281.4 | 4 | 1,543,281.4 | 4 | 1,543,281.4 | 5 | 1,543,281.4 | 7 |
| | 121 | 2,057,713.6 | 33 | 2,057,713.6 | 34 | 2,057,713.6 | 51 | 2,057,713.6 | 33 | 2,057,713.6 | 38 | 2,057,713.6 | 166 |
| | 131 | 2,067,400.2 | 2 | 2,067,400.2 | 2 | 2,067,400.2 | 2 | 2,067,400.2 | 2 | 2,067,400.2 | 2 | 2,067,400.2 | 4 |
| | 141 | 2,256,488.7 | 42 | 2,256,488.7 | 43 | 2,256,488.7 | 36 | 2,256,488.7 | 40 | 2,256,488.7 | 49 | 2,256,488.7 | 79 |
| | 151 | 1,959,117.7 | 657 | 1,959,117.7 | 695 | 1,959,117.7 | 812 | 1,959,117.7 | 895 | 1,959,117.7 | 853 | 1,959,117.7 | 2265 |
| brd14051-c12-w120-3000-4000 | 51 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 | 1,124,612.1 | 0 |
| | 61 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 1 |
| | 71 | 1,234,028.8 | 1 | 1,234,028.8 | 1 | 1,234,028.8 | 1 | 1,234,028.8 | 1 | 1,234,028.8 | 1 | 1,234,028.8 | 2 |
| | 81 | 1,335,699.7 | 2 | 1,335,699.7 | 2 | 1,335,699.7 | 1 | 1,335,699.7 | 2 | 1,335,699.7 | 2 | 1,335,699.7 | 2 |
| | 91 | 1,542,670.1 | 1 | 1,542,670.1 | 1 | 1,542,670.1 | 1 | 1,446,449.9 | 1 | 1,446,449.9 | 1 | 1,446,373.0 | 1 |
| | 101 | 1,849,511.5 | 3 | 1,849,511.5 | 3 | 1,849,511.5 | 3 | 1,849,511.5 | 3 | 1,849,511.5 | 3 | 1,849,511.5 | 4 |
| | 111 | 1,540,077.3 | 10 | 1,540,077.3 | 10 | 1,540,077.3 | 79 | 1,540,077.3 | 10 | 1,540,077.3 | 45 | 1,540,077.3 | 49 |
| | 121 | 1,752,085.8 | 18 | 1,752,085.8 | 19 | 1,752,085.8 | 12 | 1,752,085.8 | 11 | 1,752,085.8 | 12 | 1,752,085.8 | 25 |
| | 131 | 1,958,448.4 | 22 | 1,958,448.4 | 22 | 1,858,820.3 | 3 | 1,958,448.4 | 22 | 1,958,448.4 | 26 | 1,858,820.3 | 4 |
| | 141 | 1,955,906.1 | 217 | 1,955,906.1 | 226 | 1,955,906.1 | 349 | 1,955,906.1 | 192 | 1,955,906.1 | 137 | 1,955,906.1 | 1063 |
| | 151 | – | – | – | – | 1,855,334.5 | 96 | 1,855,952.1 | 136 | 1,855,334.5 | 110 | 1,855,334.5 | 668 |
| d18512-c12-w45-3000-4000 | 51 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 |
| | 61 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 |
| | 71 | 1,435,207.5 | 1 | 1,435,207.5 | 1 | 1,435,207.5 | 1 | 1,435,207.5 | 1 | 1,435,207.5 | 1 | 1,435,207.5 | 1 |
| | 81 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 | 1,335,803.2 | 0 |
| | 91 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 101 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 |
| | 111 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 5 | 2,057,469.8 | 6 | 2,057,469.8 | 6 | 2,057,469.8 | 6 |
| | 121 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 | 2,467,122.4 | 1 |
| | 131 | 2,363,775.9 | 238 | 2,363,775.9 | 245 | 2,363,670.6 | 247 | 2,363,775.9 | 247 | 2,363,775.9 | 261 | 2,363,670.6 | 1765 |
| | 141 | 2,470,199.4 | 2 | 2,470,199.4 | 2 | 2,470,199.4 | 2 | 2,470,199.4 | 2 | 2,470,199.4 | 3 | 2,470,199.4 | 4 |
| | 151 | 2,364,931.9 | 28 | 2,364,931.9 | 28 | 2,364,931.9 | 27 | 2,364,931.9 | 30 | 2,364,931.9 | 31 | 2,364,931.9 | 23 |

*Continued on next page*

Table 16 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| d18512-c12-w60-3000-4000 | 51 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 |
| | 61 | 1,129,637.7 | 52 | 1,129,637.7 | 52 | 1,129,637.7 | 49 | 1,129,637.7 | 52 | 1,129,637.7 | 53 | 1,129,637.7 | 59 |
| | 71 | 1,332,573.3 | 0 | 1,332,573.3 | 0 | 1,332,573.3 | 0 | 1,332,573.3 | 0 | 1,332,573.3 | 0 | 1,332,573.3 | 0 |
| | 81 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 |
| | 91 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 |
| | 101 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 4 |
| | 111 | 2,161,004.7 | 4 | 2,161,004.7 | 4 | 2,161,004.7 | 4 | 2,161,004.7 | 4 | 2,161,004.7 | 5 | 2,161,004.7 | 6 |
| | 121 | 2,369,463.5 | 2 | 2,369,463.5 | 2 | 2,369,463.5 | 2 | 2,369,463.5 | 3 | 2,369,463.5 | 3 | 2,369,463.5 | 3 |
| | 131 | 2,163,246.2 | 4 | 2,163,246.2 | 4 | 2,163,246.2 | 4 | 2,163,246.2 | 5 | 2,163,246.2 | 5 | 2,163,246.2 | 8 |
| | 141 | 2,058,662.4 | 172 | 2,058,662.4 | 190 | 2,058,662.4 | 301 | 2,058,662.4 | 195 | 2,058,662.4 | 1149 | 2,058,662.4 | 2730 |
| | 151 | 2,472,071.9 | 4 | 2,472,071.9 | 4 | 2,472,071.9 | 4 | 2,472,071.9 | 4 | 2,472,071.9 | 4 | 2,472,071.9 | 4 |
| d18512-c12-w75-3000-4000 | 51 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 |
| | 61 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 |
| | 71 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 |
| | 81 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 |
| | 91 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 2 |
| | 101 | 1,643,606.6 | 102 | 1,643,606.6 | 107 | 1,643,606.6 | 79 | 1,643,606.6 | 107 | 1,643,606.6 | 119 | 1,643,597.7 | 148 |
| | 111 | 1,854,577.6 | 12 | 1,854,577.6 | 12 | 1,854,577.6 | 11 | 1,854,577.6 | 12 | 1,854,577.6 | 12 | 1,854,577.6 | 22 |
| | 121 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 1 | 2,162,731.8 | 2 |
| | 131 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 2 | 2,058,382.3 | 3 |
| | 141 | 2,161,955.3 | 4 | 2,161,955.3 | 5 | 2,161,955.3 | 4 | 2,161,955.3 | 5 | 2,161,955.3 | 5 | 2,161,955.3 | 6 |
| | 151 | 2,164,095.5 | 78 | 2,164,095.5 | 80 | 2,164,095.5 | 92 | 2,164,095.5 | 94 | 2,164,095.5 | 94 | 2,064,617.6 | 1282 |
| d18512-c12-w90-3000-4000 | 51 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 |
| | 61 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 | 1,128,692.0 | 0 |
| | 71 | 1,230,829.6 | 1 | 1,230,829.6 | 1 | 1,230,829.6 | 1 | 1,230,829.6 | 1 | 1,230,829.6 | 1 | 1,230,829.6 | 2 |
| | 81 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 2 |
| | 91 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 |
| | 101 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 2 |
| | 111 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 2 |
| | 121 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 4 | 2,059,222.6 | 5 |
| | 131 | 1,955,249.1 | 4 | 1,955,249.1 | 4 | 1,955,249.1 | 4 | 1,955,249.1 | 4 | 1,955,249.1 | 3 | 1,955,249.1 | 5 |
| | 141 | 1,956,118.5 | 33 | 1,956,118.5 | 34 | 1,956,118.5 | 65 | 1,956,118.5 | 35 | 1,956,118.5 | 60 | 1,955,788.1 | 15 |
| | 151 | 2,467,660.9 | 26 | 2,467,660.9 | 27 | 2,467,660.9 | 62 | 2,467,660.9 | 33 | 2,467,660.9 | 69 | 2,467,660.9 | 295 |
| d18512-c12-w120-3000-4000 | 51 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 |
| | 61 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 |
| | 71 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 |
| | 81 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 3 | 1,233,144.8 | 4 | 1,233,144.8 | 3 | 1,233,144.8 | 4 |
| | 91 | 1,541,742.4 | 178 | 1,541,742.4 | 180 | 1,541,742.4 | 178 | 1,541,742.4 | 184 | 1,541,742.4 | 183 | 1,442,157.1 | 2 |
| | 101 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 3 |
| | 111 | 1,750,959.2 | 39 | 1,750,959.2 | 40 | 1,749,900.4 | 2 | 1,750,959.2 | 47 | 1,750,959.2 | 46 | 1,749,560.2 | 3 |
| | 121 | 1,961,979.0 | 3 | 1,961,979.0 | 3 | 1,961,979.0 | 3 | 1,961,979.0 | 3 | 1,961,979.0 | 3 | 1,961,979.0 | 3 |
| | 131 | – | – | – | – | 1,749,662.0 | 1876 | – | – | – | – | – | – |
| | 141 | 1,955,366.4 | 187 | 1,955,366.4 | 184 | 1,955,366.4 | 219 | 1,955,366.4 | 198 | 1,955,366.4 | 200 | 1,955,366.4 | 467 |
| | 151 | 2,061,249.1 | 259 | 2,061,249.1 | 268 | 2,061,249.1 | 764 | 2,061,249.1 | 514 | 2,061,249.1 | 964 | 2,060,923.6 | 2525 |
| fn14461-c12-w45-3000-4000 | 51 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 |
| | 61 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 | 1,219,170.2 | 1 |
| | 71 | 917,883.2 | 4 | 917,883.2 | 4 | 917,883.2 | 3 | 917,883.2 | 4 | 917,883.2 | 4 | 917,883.2 | 5 |
| | 81 | 921,221.2 | 3 | 921,221.2 | 3 | 921,221.2 | 3 | 921,221.2 | 3 | 921,221.2 | 3 | 921,221.2 | 4 |
| | 91 | 1,021,291.7 | 6 | 1,021,291.7 | 6 | 1,021,291.7 | 6 | 1,021,291.7 | 6 | 1,021,291.7 | 7 | 1,021,291.7 | 10 |
| | 101 | 1,228,196.3 | 5 | 1,228,196.3 | 5 | 1,228,196.3 | 4 | 1,228,196.3 | 5 | 1,228,196.3 | 5 | 1,228,196.3 | 6 |
| | 111 | 1,329,296.4 | 10 | 1,329,296.4 | 10 | 1,329,296.4 | 9 | 1,329,296.4 | 11 | 1,329,296.4 | 8 | 1,329,296.4 | 15 |
| | 121 | 1,432,493.6 | 20 | 1,432,493.6 | 20 | 1,432,493.6 | 15 | 1,432,493.6 | 21 | 1,432,493.6 | 23 | 1,432,101.2 | 34 |
| | 131 | 1,638,632.1 | 327 | 1,638,632.1 | 333 | 1,638,632.1 | 305 | 1,638,632.1 | 282 | 1,638,632.1 | 329 | 1,638,632.1 | 401 |
| | 141 | 1,740,330.7 | 17 | 1,740,330.7 | 18 | 1,740,330.7 | 17 | 1,740,330.7 | 18 | 1,740,330.7 | 24 | 1,643,123.3 | 7 |
| | 151 | 1,638,897.4 | 153 | 1,638,897.4 | 156 | 1,638,897.4 | 150 | 1,638,897.4 | 172 | 1,638,897.4 | 164 | 1,638,897.4 | 305 |

*Continued on next page*

Table 16 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| fnl4461-c12-w60-3000-4000 | 51 | 715,291.2 | 1 | 715,291.2 | 1 | 715,291.2 | 1 | 715,291.2 | 1 | 715,291.2 | 1 | 715,291.2 | 1 |
| | 61 | 816,053.3 | 1 | 816,053.3 | 1 | 816,053.3 | 1 | 816,053.3 | 1 | 816,053.3 | 1 | 816,053.3 | 1 |
| | 71 | 819,134.2 | 7 | 819,134.2 | 8 | 819,134.2 | 7 | 819,134.2 | 8 | 819,134.2 | 8 | 819,134.2 | 11 |
| | 81 | 921,467.0 | 16 | 921,467.0 | 19 | 921,467.0 | 17 | 921,467.0 | 16 | 921,467.0 | 17 | 921,467.0 | 21 |
| | 91 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 3 | 921,515.0 | 5 |
| | 101 | 1,125,975.0 | 20 | 1,125,975.0 | 21 | 1,125,975.0 | 24 | 1,125,975.0 | 30 | 1,125,975.0 | 54 | 1,125,975.0 | 93 |
| | 111 | 1,329,730.3 | 30 | 1,329,730.3 | 30 | 1,329,730.3 | 28 | 1,329,664.4 | 22 | 1,329,664.4 | 23 | 1,329,664.4 | 40 |
| | 121 | 1,230,909.8 | 9 | 1,230,909.8 | 9 | 1,230,909.8 | 8 | 1,230,909.8 | 10 | 1,230,909.8 | 9 | 1,230,909.8 | 20 |
| | 131 | 1,538,465.3 | 356 | 1,538,465.3 | 362 | 1,538,465.3 | 178 | 1,538,465.3 | 259 | 1,538,465.3 | 340 | 1,538,369.1 | 642 |
| | 141 | 1,439,262.8 | 278 | 1,439,262.8 | 286 | 1,439,262.8 | 317 | 1,439,262.8 | 430 | 1,439,262.8 | 416 | 1,438,867.9 | 347 |
| | 151 | 1,539,039.1 | 3400 | 1,539,039.1 | 3104 | 1,539,039.1 | 3201 | 1,539,039.1 | 3412 | – | – | – | – |
| fnl4461-c12-w75-3000-4000 | 51 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 1 |
| | 61 | 815,711.0 | 3 | 815,711.0 | 2 | 815,711.0 | 2 | 815,711.0 | 3 | 815,711.0 | 3 | 815,711.0 | 4 |
| | 71 | 819,042.5 | 2 | 819,042.5 | 2 | 819,042.5 | 2 | 819,042.5 | 2 | 819,042.5 | 2 | 819,007.5 | 8 |
| | 81 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 2 | 919,078.2 | 3 |
| | 91 | 1,023,204.0 | 6 | 1,023,204.0 | 5 | 1,023,204.0 | 5 | 1,023,204.0 | 6 | 1,023,204.0 | 6 | 1,023,204.0 | 8 |
| | 101 | 1,225,494.8 | 47 | 1,225,494.8 | 46 | 1,225,494.8 | 44 | 1,225,494.8 | 49 | 1,225,494.8 | 50 | 1,225,494.8 | 83 |
| | 111 | 1,130,774.3 | 90 | 1,130,774.3 | 87 | 1,130,774.3 | 79 | 1,130,774.3 | 83 | 1,130,774.3 | 86 | 1,130,592.7 | 138 |
| | 121 | – | – | – | – | – | – | – | – | – | – | 1,335,255.0 | 74 |
| | 131 | 1,434,567.2 | 118 | 1,434,567.2 | 117 | 1,434,567.2 | 97 | 1,434,567.2 | 115 | 1,434,567.2 | 123 | 1,434,567.2 | 193 |
| | 141 | 1,637,226.1 | 3286 | 1,637,226.1 | 3274 | 1,637,226.1 | 2256 | 1,637,226.1 | 2708 | 1,637,226.1 | 2684 | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w90-3000-4000 | 51 | 714,246.5 | 0 | 714,246.5 | 0 | 714,229.4 | 1 | 714,246.5 | 0 | 714,246.5 | 0 | 714,229.4 | 1 |
| | 61 | 817,382.7 | 309 | 817,382.7 | 308 | 817,382.7 | 262 | 817,382.7 | 527 | 817,382.7 | 519 | 817,382.7 | 831 |
| | 71 | 815,993.3 | 7 | 815,993.3 | 8 | 815,771.4 | 5 | 815,993.3 | 8 | 815,993.3 | 11 | 815,771.4 | 13 |
| | 81 | 921,498.3 | 4 | 921,498.3 | 4 | 921,498.3 | 4 | 921,498.3 | 5 | 921,498.3 | 5 | 921,498.3 | 5 |
| | 91 | 923,859.9 | 6 | 923,859.9 | 6 | 923,859.9 | 5 | 923,859.9 | 5 | 923,859.9 | 12 | 923,090.8 | 9 |
| | 101 | 1,126,432.3 | 124 | 1,126,432.3 | 128 | 1,126,342.8 | 154 | 1,126,432.3 | 103 | 1,126,432.3 | 120 | 1,126,342.8 | 774 |
| | 111 | 1,227,374.0 | 285 | 1,227,374.0 | 291 | 1,227,374.0 | 216 | 1,227,374.0 | 239 | 1,227,374.0 | 311 | 1,227,372.2 | 1365 |
| | 121 | 1,331,507.2 | 106 | 1,331,507.2 | 112 | 1,331,507.2 | 205 | 1,331,507.2 | 141 | 1,331,507.2 | 227 | 1,331,507.2 | 469 |
| | 131 | 1,231,014.1 | 816 | 1,231,014.1 | 837 | 1,230,943.1 | 1527 | 1,231,014.1 | 1062 | 1,231,014.1 | 1173 | 1,230,658.8 | 1728 |
| | 141 | 1,337,380.3 | 427 | 1,337,380.3 | 441 | 1,337,380.3 | 407 | 1,337,380.3 | 497 | 1,337,380.3 | 647 | 1,337,380.3 | 1196 |
| | 151 | – | – | – | – | – | – | – | – | 1,537,482.0 | 3372 | – | – |
| fnl4461-c12-w120-3000-4000 | 51 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 1 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 4 |
| | 61 | 616,275.3 | 3 | 616,275.3 | 3 | 616,275.3 | 2 | 616,275.3 | 3 | 616,275.3 | 3 | 616,275.3 | 5 |
| | 71 | 715,135.7 | 5 | 715,135.7 | 5 | 715,135.7 | 5 | 715,135.7 | 9 | 715,135.7 | 10 | 715,135.7 | 14 |
| | 81 | 819,625.6 | 109 | 819,625.6 | 120 | 819,625.6 | 124 | 819,625.6 | 114 | 819,625.6 | 135 | 819,625.6 | 853 |
| | 91 | 819,189.7 | 66 | 819,189.7 | 74 | 819,189.7 | 81 | 819,189.7 | 63 | 819,189.7 | 91 | 819,189.7 | 375 |
| | 101 | 1,027,739.8 | 155 | 1,027,739.8 | 128 | 1,027,739.8 | 104 | 1,027,739.8 | 179 | 1,027,739.8 | 170 | 1,027,739.8 | 635 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | 1,130,163.9 | 95 | 1,130,163.9 | 106 | 1,130,163.9 | 107 | 1,130,163.9 | 121 | 1,130,163.9 | 368 | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | 1,334,416.7 | 1588 | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| nrw1379-c12-w45-3000-4000 | 51 | 815,723.9 | 1 | 815,723.9 | 0 | 815,723.9 | 0 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 |
| | 61 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 |
| | 71 | 1,121,131.5 | 1 | 1,121,131.5 | 0 | 1,121,131.5 | 0 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 1 |
| | 81 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 2 | 1,231,183.1 | 2 | 1,231,183.1 | 2 |
| | 91 | 1,330,075.1 | 1 | 1,330,075.1 | 1 | 1,330,075.1 | 1 | 1,330,075.1 | 2 | 1,330,075.1 | 2 | 1,330,075.1 | 2 |
| | 101 | 1,329,356.9 | 5 | 1,329,356.9 | 5 | 1,329,356.9 | 4 | 1,329,356.9 | 5 | 1,329,356.9 | 6 | 1,329,356.9 | 7 |
| | 111 | 1,533,384.5 | 7 | 1,533,384.5 | 8 | 1,533,384.5 | 7 | 1,533,384.5 | 8 | 1,533,384.5 | 8 | 1,533,384.5 | 12 |
| | 121 | 1,538,975.6 | 31 | 1,538,975.6 | 31 | 1,538,975.6 | 25 | 1,538,975.6 | 34 | 1,538,975.6 | 35 | 1,538,975.6 | 43 |
| | 131 | 1,841,048.7 | 7 | 1,841,048.7 | 7 | 1,841,048.7 | 6 | 1,841,048.7 | 8 | 1,841,048.7 | 9 | 1,841,048.7 | 13 |
| | 141 | 1,945,073.1 | 8 | 1,945,073.1 | 8 | 1,945,073.1 | 7 | 1,945,073.1 | 9 | 1,945,073.1 | 10 | 1,945,073.1 | 14 |
| | 151 | 2,050,602.4 | 23 | 2,050,602.4 | 22 | 2,050,602.4 | 20 | 2,050,602.4 | 24 | 2,050,602.4 | 25 | 2,050,602.4 | 30 |

*Continued on next page*

Table 16 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| nrw1379-c12-w60-3000-4000 | 51 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 0 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 |
| | 61 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 |
| | 71 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 2 | 1,122,155.8 | 2 | 1,122,155.8 | 2 |
| | 81 | 1,226,778.6 | 1 | 1,226,778.6 | 1 | 1,226,778.6 | 1 | 1,226,778.6 | 1 | 1,226,778.6 | 1 | 1,226,778.6 | 1 |
| | 91 | 1,228,248.5 | 17 | 1,228,248.5 | 17 | 1,228,248.5 | 9 | 1,228,248.5 | 30 | 1,228,248.5 | 32 | 1,228,248.5 | 40 |
| | 101 | 1,429,736.1 | 3 | 1,429,736.1 | 3 | 1,429,736.1 | 2 | 1,429,736.1 | 3 | 1,429,736.1 | 3 | 1,429,736.1 | 4 |
| | 111 | 1,634,584.2 | 3 | 1,634,584.2 | 3 | 1,634,584.2 | 3 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 5 |
| | 121 | 1,539,615.2 | 72 | 1,539,615.2 | 74 | 1,539,615.2 | 63 | 1,539,615.2 | 51 | 1,539,615.2 | 88 | 1,539,615.2 | 72 |
| | 131 | 1,637,882.3 | 58 | 1,637,882.3 | 53 | 1,637,882.3 | 32 | 1,637,882.3 | 63 | 1,637,704.3 | 42 | 1,637,704.3 | 159 |
| | 141 | 1,946,626.6 | 43 | 1,946,626.6 | 44 | 1,946,626.6 | 44 | 1,946,626.6 | 50 | 1,946,626.6 | 59 | 1,946,626.6 | 283 |
| | 151 | 1,744,779.9 | 845 | 1,744,779.9 | 868 | 1,744,779.9 | 830 | 1,744,779.9 | 1040 | 1,744,779.9 | 953 | 1,744,779.9 | 2710 |
| nrw1379-c12-w75-3000-4000 | 51 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 |
| | 61 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 |
| | 71 | 1,020,804.5 | 1 | 1,020,804.5 | 1 | 1,020,804.5 | 1 | 1,020,804.5 | 1 | 1,020,804.5 | 1 | 1,020,804.5 | 2 |
| | 81 | 1,124,893.0 | 5 | 1,124,893.0 | 5 | 1,124,893.0 | 4 | 1,124,893.0 | 6 | 1,124,893.0 | 6 | 1,124,893.0 | 8 |
| | 91 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 2 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 4 |
| | 101 | 1,128,092.0 | 8 | 1,128,092.0 | 7 | 1,128,092.0 | 14 | 1,128,092.0 | 8 | 1,128,092.0 | 9 | 1,128,092.0 | 12 |
| | 111 | 1,433,221.9 | 3 | 1,433,221.9 | 2 | 1,433,221.9 | 2 | 1,433,221.9 | 3 | 1,433,221.9 | 3 | 1,433,221.9 | 4 |
| | 121 | 1,433,265.8 | 71 | 1,433,265.8 | 71 | 1,433,265.8 | 63 | 1,433,265.8 | 77 | 1,433,265.8 | 126 | 1,433,265.8 | 204 |
| | 131 | 1,538,129.4 | 114 | 1,538,129.4 | 116 | 1,538,129.4 | 141 | 1,538,129.4 | 123 | 1,537,208.9 | 8 | 1,537,208.9 | 11 |
| | 141 | 1,642,869.8 | 41 | 1,642,869.8 | 41 | 1,642,869.8 | 44 | 1,642,869.8 | 54 | 1,642,869.8 | 55 | 1,642,869.8 | 211 |
| | 151 | 1,742,524.5 | 732 | 1,742,524.5 | 760 | 1,742,524.5 | 738 | 1,742,524.5 | 790 | 1,742,524.5 | 785 | 1,644,362.4 | 556 |
| nrw1379-c12-w90-3000-4000 | 51 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 0 | 815,844.7 | 0 | 815,844.7 | 1 | 815,844.7 | 1 |
| | 61 | 1,222,461.1 | 0 | 1,222,461.1 | 0 | 1,222,461.1 | 0 | 1,222,461.1 | 1 | 1,222,461.1 | 1 | 1,222,461.1 | 1 |
| | 71 | 1,021,147.9 | 4 | 1,021,147.9 | 4 | 1,021,147.9 | 5 | 1,021,147.9 | 6 | 1,021,147.9 | 8 | 1,021,147.9 | 46 |
| | 81 | 1,023,927.9 | 6 | 1,023,927.9 | 7 | 1,023,927.9 | 14 | 1,023,927.9 | 10 | 1,023,927.9 | 13 | 1,023,927.9 | 370 |
| | 91 | 1,323,415.2 | 4 | 1,323,415.2 | 4 | 1,323,415.2 | 4 | 1,323,415.2 | 4 | 1,323,415.2 | 5 | 1,323,415.2 | 14 |
| | 101 | 1,427,969.3 | 15 | 1,427,969.3 | 16 | 1,427,969.3 | 11 | 1,427,969.3 | 17 | 1,427,969.3 | 18 | 1,330,076.4 | 13 |
| | 111 | 1,230,435.8 | 3 | 1,230,435.8 | 3 | 1,230,435.8 | 3 | 1,230,435.8 | 4 | 1,230,435.8 | 5 | 1,230,435.8 | 6 |
| | 121 | 1,333,888.5 | 6 | 1,333,888.5 | 6 | 1,333,888.5 | 7 | 1,333,888.5 | 8 | 1,333,888.5 | 7 | 1,333,888.5 | 15 |
| | 131 | 1,334,256.4 | 62 | 1,334,256.4 | 68 | 1,334,256.4 | 79 | 1,334,256.4 | 81 | 1,334,256.4 | 125 | 1,334,256.4 | 364 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,638,614.1 | 526 | 1,638,614.1 | 492 | 1,638,614.1 | 532 | 1,638,614.1 | 610 | 1,638,614.1 | 673 | 1,638,614.1 | 1021 |
| nrw1379-c12-w120-3000-4000 | 51 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 3 |
| | 61 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 |
| | 71 | 1,023,083.2 | 5 | 1,023,083.2 | 5 | 1,023,083.2 | 7 | 1,023,083.2 | 5 | 1,023,083.2 | 5 | 1,023,083.2 | 14 |
| | 81 | 923,992.7 | 5 | 923,992.7 | 5 | 923,992.7 | 5 | 923,992.7 | 5 | 923,992.7 | 5 | 923,992.7 | 10 |
| | 91 | 1,023,394.5 | 7 | 1,023,394.5 | 7 | 1,023,366.5 | 7 | 1,023,394.5 | 7 | 1,023,394.5 | 8 | 1,023,317.4 | 17 |
| | 101 | 1,229,648.7 | 13 | 1,229,648.7 | 13 | 1,229,648.7 | 17 | 1,229,648.7 | 20 | 1,229,648.7 | 19 | 1,229,648.7 | 53 |
| | 111 | 1,231,170.4 | 54 | 1,231,170.4 | 54 | 1,231,170.4 | 48 | 1,231,170.4 | 72 | 1,231,170.4 | 59 | 1,231,152.1 | 364 |
| | 121 | – | – | – | – | 1,331,806.6 | 1113 | – | – | – | – | 1,233,913.7 | 2171 |
| | 131 | 1,433,718.2 | 1190 | 1,433,718.2 | 1013 | 1,433,718.2 | 1011 | 1,433,718.2 | 1528 | 1,433,718.2 | 1466 | – | – |
| | 141 | 1,639,336.4 | 21 | 1,639,336.4 | 25 | 1,639,336.4 | 21 | 1,639,336.4 | 24 | 1,639,336.4 | 25 | 1,639,336.4 | 69 |
| | 151 | 1,537,597.9 | 1324 | 1,537,597.9 | 1266 | 1,440,669.5 | 359 | 1,440,669.5 | 583 | 1,440,669.5 | 407 | 1,440,669.5 | 2515 |
| Solved | | | 279 | | 278 | | 285 | | 278 | | 278 | | 274 |
| ∅ Time | | | 157.3 | | 146.3 | | 198.0 | | 146.4 | | 158.2 | | 228.3 |

**Table 17: Detailed computational results $\delta = 50$ and with two stacks**

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w15-500-1000 | 51 | 804,506.0 | 1 | 804,506.0 | 1 | 804,506.0 | 1 | 804,506.0 | 1 | 804,506.0 | 1 | 804,506.0 | 2 |
| | 61 | 905,317.8 | 1 | 905,317.8 | 1 | 905,317.8 | 1 | 905,317.8 | 1 | 905,317.8 | 1 | 905,317.8 | 1 |
| | 71 | 1,006,249.9 | 7 | 1,006,249.9 | 8 | 1,006,249.9 | 8 | 1,006,249.9 | 7 | 1,006,249.9 | 8 | 1,006,249.9 | 9 |
| | 81 | 1,307,681.0 | 1 | 1,307,681.0 | 1 | 1,307,681.0 | 1 | 1,307,681.0 | 1 | 1,307,681.0 | 1 | 1,307,681.0 | 1 |
| | 91 | 1,308,457.1 | 7 | 1,308,457.1 | 7 | 1,308,457.1 | 7 | 1,308,457.1 | 7 | 1,308,457.1 | 7 | 1,308,457.1 | 11 |
| | 101 | 1,611,280.1 | 3 | 1,611,280.1 | 3 | 1,611,280.1 | 3 | 1,611,280.1 | 3 | 1,611,280.1 | 4 | 1,611,280.1 | 4 |
| | 111 | 1,812,796.2 | 8 | 1,812,796.2 | 8 | 1,812,796.2 | 8 | 1,812,796.2 | 8 | 1,812,796.2 | 9 | 1,812,796.2 | 10 |
| | 121 | 1,712,191.5 | 152 | 1,712,191.5 | 156 | 1,712,191.5 | 162 | 1,712,191.5 | 163 | 1,712,191.5 | 168 | 1,712,191.5 | 235 |
| | 131 | 1,812,679.1 | 38 | 1,812,679.1 | 39 | 1,812,679.1 | 41 | 1,812,679.1 | 32 | 1,812,679.1 | 33 | 1,812,662.1 | 51 |
| | 141 | 2,014,062.7 | 80 | 2,014,062.7 | 83 | 2,014,062.7 | 87 | 2,014,062.7 | 82 | 2,014,062.7 | 79 | 2,014,062.7 | 94 |
| | 151 | 2,215,595.2 | 44 | 2,215,595.2 | 46 | 2,215,595.2 | 49 | 2,215,595.2 | 45 | 2,215,595.2 | 49 | 2,215,595.2 | 59 |
| a280-c12-w15-1000-1200 | 51 | 904,616.6 | 0 | 904,616.6 | 0 | 904,616.6 | 0 | 904,616.6 | 0 | 904,616.6 | 0 | 904,616.6 | 0 |
| | 61 | 905,305.3 | 1 | 905,305.3 | 1 | 905,305.3 | 1 | 905,305.3 | 1 | 905,305.3 | 1 | 905,305.3 | 1 |
| | 71 | 1,005,845.0 | 1 | 1,005,845.0 | 1 | 1,005,845.0 | 1 | 1,005,845.0 | 1 | 1,005,845.0 | 1 | 1,005,845.0 | 1 |
| | 81 | 1,208,065.6 | 4 | 1,208,065.6 | 4 | 1,208,065.6 | 4 | 1,208,065.6 | 4 | 1,208,065.6 | 4 | 1,208,065.6 | 5 |
| | 91 | 1,209,279.1 | 5 | 1,209,279.1 | 5 | 1,209,279.1 | 5 | 1,209,279.1 | 5 | 1,209,279.1 | 6 | 1,209,279.1 | 7 |
| | 101 | 1,310,248.6 | 17 | 1,310,248.6 | 17 | 1,310,248.6 | 18 | 1,310,248.6 | 17 | 1,310,248.6 | 24 | 1,310,248.6 | 29 |
| | 111 | 1,311,063.5 | 59 | 1,311,063.5 | 61 | 1,311,063.5 | 64 | 1,311,063.5 | 57 | 1,311,063.5 | 65 | 1,311,063.5 | 78 |
| | 121 | 1,209,965.4 | 22 | 1,209,965.4 | 23 | 1,209,965.4 | 24 | 1,209,965.4 | 23 | 1,209,965.4 | 24 | 1,209,965.4 | 31 |
| | 131 | 1,512,877.4 | 623 | 1,512,877.4 | 641 | 1,512,877.4 | 666 | 1,512,877.4 | 190 | 1,512,877.4 | 345 | 1,512,877.4 | 410 |
| | 141 | 1,913,702.2 | 40 | 1,913,702.2 | 41 | 1,913,702.2 | 43 | 1,913,576.8 | 6 | 1,913,455.4 | 35 | 1,913,455.4 | 45 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w15-1500-2000 | 51 | 603,995.4 | 7 | 603,995.4 | 7 | 603,995.4 | 7 | 603,995.4 | 8 | 603,987.6 | 12 | 603,987.6 | 11 |
| | 61 | 605,570.0 | 10 | 605,570.0 | 10 | 605,570.0 | 11 | 605,570.0 | 11 | 605,570.0 | 7 | 605,570.0 | 9 |
| | 71 | 706,371.5 | 153 | 706,371.5 | 200 | 706,371.5 | 207 | 706,371.5 | 163 | 706,371.5 | 188 | 706,311.2 | 263 |
| | 81 | 807,071.7 | 6 | 807,071.7 | 6 | 807,071.7 | 7 | 807,071.7 | 6 | 807,071.7 | 6 | 807,071.7 | 8 |
| | 91 | 908,087.3 | 185 | 908,087.3 | 196 | 908,087.3 | 202 | 908,087.3 | 206 | 908,087.3 | 297 | 908,087.3 | 462 |
| | 101 | 909,192.5 | 437 | 909,192.5 | 444 | 909,192.5 | 457 | 908,963.7 | 446 | 908,816.6 | 331 | 908,816.6 | 1181 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | 1,212,131.9 | 138 | 1,212,131.9 | 145 | 1,212,131.9 | 146 | 1,212,131.9 | 2988 | 1,212,131.9 | 3089 | 1,212,131.9 | 1451 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-500-1000 | 51 | 704,319.4 | 1 | 704,319.4 | 1 | 704,319.4 | 1 | 704,319.4 | 1 | 704,319.4 | 1 | 704,319.4 | 1 |
| | 61 | 904,739.2 | 5 | 904,739.2 | 5 | 904,739.2 | 5 | 904,739.2 | 5 | 904,739.2 | 5 | 805,405.6 | 5 |
| | 71 | 1,005,880.2 | 6 | 1,005,880.2 | 6 | 1,005,880.2 | 6 | 1,005,880.2 | 6 | 1,005,880.2 | 6 | 1,005,880.2 | 7 |
| | 81 | 1,107,652.7 | 48 | 1,107,652.7 | 50 | 1,107,652.7 | 49 | 1,107,652.7 | 49 | 1,107,652.7 | 48 | 1,107,652.7 | 72 |
| | 91 | 1,308,334.7 | 59 | 1,308,334.7 | 63 | 1,308,334.7 | 63 | 1,308,334.7 | 62 | 1,308,334.7 | 115 | 1,308,334.7 | 63 |
| | 101 | 1,409,785.6 | 5 | 1,409,785.6 | 5 | 1,409,785.6 | 5 | 1,409,785.6 | 5 | 1,409,785.6 | 6 | 1,409,758.8 | 7 |
| | 111 | 1,510,277.7 | 130 | 1,510,277.7 | 139 | 1,510,277.7 | 134 | 1,510,277.7 | 140 | 1,510,277.7 | 142 | 1,510,277.7 | 349 |
| | 121 | 1,511,461.9 | 512 | 1,511,461.9 | 527 | 1,511,461.9 | 520 | 1,511,461.9 | 510 | 1,511,461.9 | 507 | 1,511,461.9 | 1162 |
| | 131 | – | – | – | – | – | – | 1,611,666.2 | 969 | 1,611,666.2 | 1090 | 1,611,613.0 | 1524 |
| | 141 | 1,713,143.4 | 472 | 1,713,143.4 | 485 | 1,713,143.4 | 492 | 1,713,143.4 | 493 | 1,713,143.4 | 523 | 1,713,143.4 | 664 |
| | 151 | 1,713,193.1 | 1833 | 1,713,193.1 | 2026 | 1,713,193.1 | 2091 | 1,713,193.1 | 1907 | 1,713,193.1 | 2012 | 1,713,193.1 | 2057 |
| a280-c12-w30-1000-1200 | 51 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 |
| | 61 | 704,686.9 | 1 | 704,686.9 | 1 | 704,686.9 | 1 | 704,686.9 | 1 | 704,686.9 | 1 | 704,686.9 | 1 |
| | 71 | 906,094.6 | 2 | 906,094.6 | 2 | 906,094.6 | 2 | 906,094.6 | 2 | 906,094.6 | 2 | 906,094.6 | 2 |
| | 81 | 1,008,098.3 | 1 | 1,008,098.3 | 1 | 1,008,098.3 | 2 | 1,008,098.3 | 2 | 1,008,098.3 | 2 | 1,008,098.3 | 2 |
| | 91 | 1,208,246.7 | 3 | 1,208,246.7 | 3 | 1,208,246.7 | 3 | 1,208,246.7 | 3 | 1,208,246.7 | 3 | 1,208,246.7 | 4 |
| | 101 | 1,210,282.3 | 2 | 1,210,282.3 | 2 | 1,210,282.3 | 3 | 1,210,282.3 | 3 | 1,210,282.3 | 3 | 1,210,282.3 | 4 |
| | 111 | 1,311,048.1 | 107 | 1,311,048.1 | 111 | 1,311,048.1 | 117 | 1,311,048.1 | 117 | 1,311,048.1 | 60 | 1,311,048.1 | 69 |
| | 121 | – | – | – | – | – | – | 1,512,221.4 | 2775 | 1,512,221.4 | 2863 | 1,512,221.4 | 3477 |
| | 131 | 1,310,685.7 | 274 | 1,310,685.7 | 305 | 1,310,685.7 | 295 | 1,310,685.7 | 378 | 1,310,685.7 | 396 | 1,310,685.7 | 456 |
| | 141 | 1,512,917.0 | 28 | 1,512,917.0 | 29 | 1,512,917.0 | 30 | 1,512,917.0 | 29 | 1,512,917.0 | 31 | 1,512,917.0 | 36 |
| | 151 | 1,613,154.1 | 342 | 1,613,154.1 | 351 | 1,613,154.1 | 365 | 1,613,154.1 | 456 | 1,613,154.1 | 488 | 1,613,154.1 | 800 |

*Continued on next page*

Table 17 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w30-1500-2000 | 51 | 503,914.6 | 6 | 503,914.6 | 8 | 503,914.6 | 8 | 503,914.6 | 8 | 503,894.8 | 12 | 503,894.8 | 15 |
| | 61 | 505,304.0 | 64 | 505,304.0 | 61 | 505,304.0 | 65 | 505,292.8 | 128 | 505,189.2 | 52 | 505,189.2 | 62 |
| | 71 | 706,108.8 | 13 | 706,108.8 | 13 | 706,108.8 | 14 | 706,108.8 | 15 | 706,108.8 | 33 | 706,108.8 | 46 |
| | 81 | 706,862.1 | 96 | 706,862.1 | 92 | 706,862.1 | 98 | 706,862.1 | 96 | 706,862.1 | 115 | 706,862.1 | 136 |
| | 91 | 807,236.8 | 736 | 807,236.8 | 592 | 807,236.8 | 629 | 807,236.8 | 706 | 807,236.8 | 905 | 807,236.8 | 1040 |
| | 101 | 909,091.2 | 2860 | 909,091.2 | 2971 | 909,091.2 | 3047 | 909,091.2 | 2952 | – | – | 908,959.5 | 3198 |
| | 111 | 909,587.3 | 922 | 909,587.3 | 949 | 909,587.3 | 969 | 909,587.3 | 2210 | 909,587.3 | 2020 | 909,587.3 | 3255 |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-500-1000 | 51 | 703,927.3 | 1 | 703,927.3 | 1 | 703,927.3 | 1 | 703,927.3 | 1 | 703,927.3 | 1 | 703,927.3 | 2 |
| | 61 | 804,561.2 | 44 | 804,561.2 | 48 | 804,561.2 | 51 | 804,561.2 | 48 | 804,561.2 | 51 | 804,561.2 | 52 |
| | 71 | 805,990.3 | 41 | 805,990.3 | 41 | 805,990.3 | 42 | 805,990.3 | 40 | 805,990.3 | 40 | 805,990.3 | 75 |
| | 81 | 1,007,186.0 | 248 | 1,007,186.0 | 248 | 1,007,186.0 | 258 | 1,007,186.0 | 268 | 1,007,186.0 | 194 | 1,007,186.0 | 280 |
| | 91 | 1,007,875.7 | 990 | 1,007,875.7 | 1211 | 1,007,875.7 | 931 | 1,007,875.7 | 1068 | 1,007,875.7 | 1064 | 1,007,875.7 | 1636 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | 1,510,813.9 | 2476 | 1,510,813.9 | 2399 | 1,510,813.9 | 2424 | 1,510,813.9 | 2490 | 1,510,813.9 | 2254 | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1000-1200 | 51 | 703,894.6 | 1 | 703,894.6 | 1 | 703,894.6 | 1 | 703,894.6 | 1 | 703,894.6 | 1 | 703,894.6 | 1 |
| | 61 | 704,350.5 | 5 | 704,350.5 | 6 | 704,350.5 | 6 | 704,350.5 | 7 | 704,350.5 | 7 | 704,350.5 | 8 |
| | 71 | 705,809.2 | 3 | 705,809.2 | 3 | 705,809.2 | 3 | 705,809.2 | 3 | 705,809.2 | 4 | 705,809.2 | 5 |
| | 81 | 806,915.0 | 10 | 806,915.0 | 10 | 806,915.0 | 11 | 806,915.0 | 10 | 806,915.0 | 11 | 806,915.0 | 12 |
| | 91 | 1,007,973.4 | 42 | 1,007,973.4 | 43 | 1,007,973.4 | 44 | 1,007,973.4 | 30 | 1,007,973.4 | 32 | 1,007,973.4 | 39 |
| | 101 | 1,209,618.4 | 467 | 1,209,618.4 | 473 | 1,209,618.4 | 490 | 1,209,535.5 | 298 | 1,209,473.1 | 581 | 1,209,473.1 | 687 |
| | 111 | 1,110,248.6 | 3501 | 1,110,248.6 | 3460 | 1,110,248.6 | 3566 | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1500-2000 | 51 | 504,128.5 | 78 | 504,128.5 | 84 | 504,128.5 | 63 | 504,128.5 | 74 | 504,128.5 | 70 | 504,128.5 | 89 |
| | 61 | 704,556.6 | 38 | 704,556.6 | 41 | 704,556.6 | 38 | 704,525.6 | 21 | 704,490.0 | 6 | 704,490.0 | 8 |
| | 71 | 705,014.9 | 206 | 705,014.9 | 228 | 705,014.9 | 292 | 705,014.9 | 222 | 705,014.8 | 404 | 705,014.8 | 420 |
| | 81 | 706,626.0 | 126 | 706,626.0 | 155 | 706,626.0 | 171 | 706,626.0 | 157 | 706,626.0 | 132 | 706,626.0 | 161 |
| | 91 | 809,049.1 | 25 | 809,049.1 | 25 | 809,049.1 | 29 | 808,799.0 | 342 | 808,782.3 | 472 | 808,782.3 | 406 |
| | 101 | 908,128.2 | 1001 | 908,128.2 | 1137 | 908,128.2 | 985 | 908,128.2 | 1101 | 908,128.2 | 1455 | 908,128.2 | 1795 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| brd14051-c12-w45-3000-4000 | 51 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 |
| | 61 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| | 71 | 1,438,701.4 | 0 | 1,438,701.4 | 0 | 1,438,701.4 | 0 | 1,438,502.5 | 0 | 1,438,502.5 | 0 | 1,438,502.5 | 0 |
| | 81 | 1,438,212.8 | 5 | 1,438,212.8 | 5 | 1,438,212.8 | 5 | 1,438,212.8 | 5 | 1,438,212.8 | 4 | 1,438,087.6 | 3 |
| | 91 | 1,954,235.0 | 1 | 1,954,235.0 | 1 | 1,954,235.0 | 1 | 1,954,235.0 | 1 | 1,954,235.0 | 1 | 1,954,235.0 | 2 |
| | 101 | 1,851,134.4 | 1 | 1,851,134.4 | 1 | 1,851,134.4 | 1 | 1,851,134.4 | 1 | 1,851,134.4 | 1 | 1,851,134.4 | 1 |
| | 111 | 2,052,595.4 | 1 | 2,052,595.4 | 1 | 2,052,595.4 | 1 | 2,052,595.4 | 1 | 2,052,595.4 | 1 | 2,052,595.4 | 1 |
| | 121 | 2,157,856.5 | 14 | 2,157,856.5 | 14 | 2,157,856.5 | 21 | 2,061,243.8 | 2 | 2,061,243.8 | 3 | 2,061,243.8 | 3 |
| | 131 | 2,777,810.1 | 1 | 2,777,810.1 | 1 | 2,777,810.1 | 1 | 2,777,810.1 | 1 | 2,777,810.1 | 2 | 2,777,810.1 | 2 |
| | 141 | 2,572,088.5 | 34 | 2,572,088.5 | 41 | 2,572,088.5 | 61 | 2,572,088.5 | 36 | 2,572,088.5 | 39 | 2,572,088.5 | 122 |
| | 151 | 2,671,373.9 | 44 | 2,671,373.9 | 46 | 2,671,373.9 | 48 | 2,671,373.9 | 48 | 2,671,208.4 | 18 | 2,671,148.9 | 11 |

*Continued on next page*

Table 17 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| brd14051-c12-w60-3000-4000 | 51 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 | 1,328,721.6 | 0 |
| | 61 | 1,232,092.0 | 1 | 1,232,092.0 | 0 | 1,232,092.0 | 0 | 1,232,092.0 | 1 | 1,232,092.0 | 0 | 1,232,092.0 | 1 |
| | 71 | 1,438,022.8 | 1 | 1,438,022.8 | 1 | 1,438,022.8 | 1 | 1,438,022.8 | 1 | 1,438,022.8 | 1 | 1,438,022.8 | 1 |
| | 81 | 1,840,955.3 | 1 | 1,840,955.3 | 1 | 1,840,955.3 | 1 | 1,840,955.3 | 1 | 1,741,126.7 | 1 | 1,741,126.7 | 1 |
| | 91 | 1,641,774.1 | 1 | 1,641,774.1 | 1 | 1,641,774.1 | 1 | 1,641,774.1 | 1 | 1,641,774.1 | 1 | 1,641,774.1 | 2 |
| | 101 | 1,948,345.1 | 1 | 1,948,345.1 | 1 | 1,948,345.1 | 1 | 1,948,345.1 | 1 | 1,948,345.1 | 1 | 1,948,345.1 | 2 |
| | 111 | 1,646,787.6 | 3 | 1,646,787.6 | 3 | 1,646,787.6 | 3 | 1,646,787.6 | 3 | 1,646,787.6 | 3 | 1,646,298.8 | 16 |
| | 121 | 2,468,776.1 | 1 | 2,468,776.1 | 1 | 2,468,776.1 | 1 | 2,468,776.1 | 1 | 2,468,740.3 | 2 | 2,468,740.3 | 3 |
| | 131 | 2,573,160.0 | 34 | 2,573,160.0 | 35 | 2,573,160.0 | 35 | 2,572,874.7 | 270 | 2,572,874.7 | 274 | 2,572,874.7 | 290 |
| | 141 | 2,264,742.8 | 4 | 2,264,742.8 | 4 | 2,264,742.8 | 4 | 2,264,742.8 | 4 | 2,264,742.8 | 4 | 2,264,271.7 | 6 |
| | 151 | 2,570,509.1 | 257 | 2,570,509.1 | 235 | 2,570,509.1 | 358 | 2,570,509.1 | 271 | 2,570,509.1 | 328 | 2,471,488.6 | 26 |
| brd14051-c12-w75-3000-4000 | 51 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 | 1,125,805.1 | 1 |
| | 61 | 1,336,523.1 | 20 | 1,336,523.1 | 20 | 1,336,523.1 | 20 | 1,336,523.1 | 21 | 1,336,523.1 | 21 | 1,336,523.1 | 23 |
| | 71 | 1,435,660.2 | 1 | 1,435,658.0 | 1 | 1,435,658.0 | 1 | 1,435,658.0 | 1 | 1,435,527.8 | 1 | 1,435,527.8 | 1 |
| | 81 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 | 1,640,213.9 | 1 |
| | 91 | 1,641,142.4 | 738 | 1,641,142.4 | 737 | 1,641,142.4 | 751 | 1,641,139.5 | 729 | 1,641,139.5 | 785 | 1,641,139.5 | 833 |
| | 101 | 1,954,238.4 | 2 | 1,954,238.4 | 2 | 1,954,238.4 | 2 | 1,954,238.4 | 2 | 1,954,238.4 | 2 | 1,954,238.4 | 2 |
| | 111 | 1,957,678.7 | 44 | 1,957,678.7 | 18 | 1,957,678.7 | 18 | 1,954,345.0 | 8 | 1,954,345.0 | 8 | 1,954,345.0 | 15 |
| | 121 | 2,058,669.9 | 1 | 2,058,669.9 | 1 | 2,058,669.9 | 1 | 2,058,669.9 | 1 | 2,058,669.9 | 1 | 2,058,669.9 | 1 |
| | 131 | 2,269,970.3 | 2 | 2,269,970.3 | 2 | 2,269,970.3 | 2 | 2,269,970.3 | 2 | 2,269,970.3 | 2 | 2,269,970.3 | 2 |
| | 141 | 2,055,429.1 | 322 | 2,055,429.1 | 229 | 2,055,429.1 | 234 | 2,055,429.1 | 223 | 1,956,330.1 | 13 | 1,956,330.1 | 15 |
| | 151 | 2,258,111.3 | 72 | 2,258,111.3 | 75 | 2,258,111.3 | 117 | 2,258,111.3 | 78 | 2,258,111.3 | 118 | 2,258,111.3 | 122 |
| brd14051-c12-w90-3000-4000 | 51 | 1,227,740.0 | 0 | 1,227,740.0 | 0 | 1,227,740.0 | 0 | 1,227,740.0 | 0 | 1,227,740.0 | 0 | 1,227,740.0 | 0 |
| | 61 | 1,233,437.0 | 1 | 1,233,437.0 | 1 | 1,233,437.0 | 1 | 1,233,437.0 | 1 | 1,233,437.0 | 1 | 1,233,437.0 | 1 |
| | 71 | 1,331,535.0 | 1 | 1,331,535.0 | 1 | 1,331,535.0 | 1 | 1,331,535.0 | 1 | 1,331,535.0 | 1 | 1,331,535.0 | 1 |
| | 81 | 1,539,376.8 | 1 | 1,539,376.8 | 1 | 1,539,376.8 | 1 | 1,539,376.8 | 1 | 1,539,296.1 | 1 | 1,539,296.1 | 1 |
| | 91 | 1,842,456.4 | 1 | 1,842,456.4 | 1 | 1,842,456.4 | 1 | 1,842,456.4 | 1 | 1,842,456.4 | 1 | 1,842,456.4 | 1 |
| | 101 | 1,853,439.9 | 2 | 1,853,439.9 | 2 | 1,853,439.9 | 2 | 1,853,439.9 | 2 | 1,853,439.9 | 2 | 1,853,439.9 | 3 |
| | 111 | 1,543,281.4 | 4 | 1,543,281.4 | 4 | 1,543,281.4 | 5 | 1,543,281.4 | 4 | 1,543,281.4 | 5 | 1,543,281.4 | 6 |
| | 121 | 2,058,108.9 | 3 | 2,058,108.9 | 3 | 2,058,108.9 | 3 | 2,058,108.9 | 3 | 2,058,108.9 | 3 | 2,058,108.9 | 3 |
| | 131 | 2,272,628.2 | 3 | 2,272,628.2 | 3 | 2,272,628.2 | 3 | 2,271,341.5 | 3 | 2,271,341.5 | 4 | 2,271,018.3 | 4 |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 2,059,151.1 | 44 | 2,059,151.1 | 61 | 2,059,151.1 | 46 | 2,059,151.1 | 48 | 2,059,151.1 | 52 | 2,059,151.1 | 55 |
| brd14051-c12-w120-3000-4000 | 51 | 1,125,247.4 | 0 | 1,125,247.4 | 0 | 1,125,247.4 | 0 | 1,125,247.4 | 0 | 1,124,974.6 | 0 | 1,124,974.6 | 0 |
| | 61 | 1,232,367.5 | 0 | 1,232,367.5 | 0 | 1,232,367.5 | 0 | 1,232,367.5 | 0 | 1,232,367.5 | 0 | 1,232,367.5 | 1 |
| | 71 | 1,234,372.4 | 1 | 1,234,372.4 | 1 | 1,234,372.4 | 1 | 1,234,372.4 | 1 | 1,234,372.4 | 1 | 1,234,372.4 | 1 |
| | 81 | 1,435,157.0 | 10 | 1,435,157.0 | 11 | 1,435,157.0 | 11 | 1,435,157.0 | 11 | 1,435,157.0 | 12 | 1,435,153.1 | 9 |
| | 91 | 1,542,891.0 | 1 | 1,542,891.0 | 1 | 1,542,891.0 | 1 | 1,542,891.0 | 2 | 1,542,891.0 | 2 | 1,542,891.0 | 2 |
| | 101 | 1,850,076.4 | 2 | 1,850,076.4 | 3 | 1,850,076.4 | 3 | 1,850,076.4 | 2 | 1,850,076.4 | 3 | 1,849,914.0 | 3 |
| | 111 | 1,547,786.8 | 829 | 1,547,786.8 | 459 | 1,543,750.1 | 44 | 1,547,786.8 | 551 | 1,544,737.6 | 202 | 1,543,750.1 | 44 |
| | 121 | 1,851,818.1 | 309 | 1,851,818.1 | 341 | 1,851,818.1 | 322 | 1,851,818.1 | 449 | 1,851,818.1 | 479 | 1,851,818.1 | 493 |
| | 131 | 2,061,469.5 | 111 | 2,061,469.5 | 113 | 2,061,469.5 | 133 | 2,061,185.6 | 62 | 1,961,209.7 | 3 | 1,961,209.7 | 3 |
| | 141 | 2,054,580.8 | 12 | 2,054,580.8 | 11 | 2,054,580.8 | 13 | 2,054,580.8 | 12 | 2,054,580.8 | 19 | 2,054,580.8 | 20 |
| | 151 | – | – | – | – | 2,055,737.5 | 3176 | – | – | – | – | 1,955,689.1 | 353 |
| d18512-c12-w45-3000-4000 | 51 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 |
| | 61 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 |
| | 71 | 1,538,641.5 | 43 | 1,538,641.5 | 46 | 1,538,641.5 | 48 | 1,538,641.5 | 44 | 1,538,641.5 | 45 | 1,538,641.5 | 50 |
| | 81 | 1,437,133.4 | 1 | 1,437,133.4 | 1 | 1,437,133.4 | 1 | 1,437,133.4 | 1 | 1,437,133.4 | 1 | 1,437,133.4 | 1 |
| | 91 | 1,847,131.2 | 326 | 1,847,131.2 | 327 | 1,847,131.2 | 333 | 1,847,131.2 | 333 | 1,847,131.2 | 337 | 1,847,131.2 | 358 |
| | 101 | 1,748,402.5 | 1 | 1,748,402.5 | 1 | 1,748,402.5 | 1 | 1,748,402.5 | 1 | 1,748,402.5 | 1 | 1,748,402.5 | 1 |
| | 111 | 2,060,277.1 | 1 | 2,060,277.1 | 1 | 2,060,277.1 | 1 | 2,060,277.1 | 1 | 2,060,277.1 | 1 | 2,059,333.7 | 1 |
| | 121 | 2,468,964.6 | 1 | 2,468,964.6 | 1 | 2,468,964.6 | 1 | 2,468,964.6 | 1 | 2,468,964.6 | 1 | 2,468,964.6 | 1 |
| | 131 | 2,364,567.2 | 5 | 2,364,567.2 | 4 | 2,364,567.2 | 5 | 2,364,567.2 | 4 | 2,364,567.2 | 6 | 2,364,567.2 | 32 |
| | 141 | 2,569,730.7 | 3 | 2,569,730.7 | 3 | 2,569,730.7 | 3 | 2,569,730.7 | 3 | 2,569,730.7 | 4 | 2,569,730.7 | 5 |
| | 151 | 2,467,166.6 | 3 | 2,467,166.6 | 3 | 2,467,166.6 | 3 | 2,467,166.6 | 3 | 2,467,166.6 | 3 | 2,467,166.6 | 3 |

*Continued on next page*

Table 17 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| d18512-c12-w60-3000-4000 | 51 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 | 1,334,087.9 | 0 |
| | 61 | 1,130,060.0 | 0 | 1,130,060.0 | 0 | 1,130,060.0 | 0 | 1,130,060.0 | 0 | 1,130,060.0 | 0 | 1,130,060.0 | 0 |
| | 71 | 1,434,764.4 | 37 | 1,434,764.4 | 36 | 1,434,764.4 | 38 | 1,434,764.4 | 36 | 1,434,764.4 | 38 | 1,434,764.4 | 37 |
| | 81 | 1,540,614.6 | 1 | 1,540,614.6 | 1 | 1,540,614.6 | 1 | 1,540,614.6 | 1 | 1,540,614.6 | 1 | 1,540,614.6 | 1 |
| | 91 | 1,848,182.2 | 3 | 1,848,182.2 | 2 | 1,848,182.2 | 3 | 1,747,529.3 | 1 | 1,747,529.3 | 1 | 1,746,660.2 | 1 |
| | 101 | 1,950,683.4 | 2 | 1,950,683.4 | 2 | 1,950,683.4 | 2 | 1,950,683.4 | 2 | 1,950,683.4 | 2 | 1,950,683.4 | 2 |
| | 111 | 2,161,602.9 | 3 | 2,161,602.9 | 2 | 2,161,602.9 | 3 | 2,161,602.9 | 2 | 2,161,602.9 | 3 | 2,161,602.9 | 3 |
| | 121 | 2,369,661.8 | 2 | 2,369,661.8 | 2 | 2,369,661.8 | 2 | 2,369,661.8 | 2 | 2,369,661.8 | 2 | 2,369,642.8 | 2 |
| | 131 | 2,263,654.1 | 5 | 2,263,654.1 | 5 | 2,263,654.1 | 7 | 2,263,654.1 | 6 | 2,263,654.1 | 6 | 2,263,654.1 | 9 |
| | 141 | 2,161,708.9 | 17 | 2,161,708.9 | 20 | 2,161,708.9 | 25 | 2,161,708.9 | 16 | 2,161,700.4 | 53 | 2,161,700.4 | 97 |
| | 151 | 2,571,926.5 | 11 | 2,571,926.5 | 12 | 2,571,926.5 | 13 | 2,571,926.5 | 12 | 2,571,926.5 | 13 | 2,571,926.5 | 47 |
| d18512-c12-w75-3000-4000 | 51 | 1,231,806.8 | 1 | 1,231,806.8 | 1 | 1,231,806.8 | 1 | 1,231,806.8 | 1 | 1,231,806.8 | 1 | 1,231,806.8 | 1 |
| | 61 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 | 1,131,854.1 | 1 |
| | 71 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 |
| | 81 | 1,841,695.1 | 0 | 1,841,695.1 | 0 | 1,841,695.1 | 0 | 1,841,695.1 | 0 | 1,841,695.1 | 0 | 1,841,695.1 | 0 |
| | 91 | 1,537,467.0 | 2 | 1,537,467.0 | 2 | 1,537,467.0 | 2 | 1,537,467.0 | 2 | 1,537,467.0 | 2 | 1,537,467.0 | 2 |
| | 101 | 1,643,714.5 | 59 | 1,643,714.5 | 18 | 1,643,714.5 | 19 | 1,643,714.5 | 60 | 1,643,714.5 | 48 | 1,643,714.5 | 61 |
| | 111 | 1,855,623.8 | 3 | 1,855,623.8 | 3 | 1,855,623.8 | 3 | 1,855,623.8 | 3 | 1,855,623.8 | 3 | 1,855,514.8 | 3 |
| | 121 | 2,265,042.0 | 5 | 2,265,042.0 | 5 | 2,265,042.0 | 5 | 2,265,042.0 | 6 | 2,265,042.0 | 5 | 2,265,042.0 | 6 |
| | 131 | 2,259,225.0 | 6 | 2,259,225.0 | 6 | 2,259,225.0 | 6 | 2,259,225.0 | 6 | 2,259,225.0 | 6 | 2,259,225.0 | 4 |
| | 141 | 2,361,536.8 | 6 | 2,361,536.8 | 6 | 2,361,536.8 | 6 | 2,360,568.3 | 6 | 2,360,568.3 | 7 | 2,360,568.3 | 8 |
| | 151 | 2,265,785.1 | 8 | 2,265,785.1 | 8 | 2,265,785.1 | 8 | 2,265,785.1 | 21 | 2,265,785.1 | 22 | 2,265,785.1 | 31 |
| d18512-c12-w90-3000-4000 | 51 | 1,027,666.9 | 0 | 1,027,666.9 | 1 | 1,027,666.9 | 1 | 1,027,666.9 | 0 | 1,027,666.9 | 1 | 1,027,666.9 | 1 |
| | 61 | 1,230,407.4 | 80 | 1,230,407.4 | 81 | 1,230,407.4 | 84 | 1,230,407.4 | 81 | 1,230,407.4 | 86 | 1,230,407.4 | 80 |
| | 71 | 1,231,286.5 | 3 | 1,231,286.5 | 3 | 1,231,286.5 | 3 | 1,231,286.5 | 3 | 1,231,286.5 | 4 | 1,231,286.5 | 4 |
| | 81 | 1,438,395.7 | 1 | 1,438,395.7 | 1 | 1,438,395.7 | 1 | 1,438,395.7 | 1 | 1,438,395.7 | 1 | 1,438,395.7 | 1 |
| | 91 | 1,844,769.3 | 1 | 1,844,769.3 | 1 | 1,844,769.3 | 1 | 1,844,769.3 | 1 | 1,844,769.3 | 1 | 1,844,769.3 | 1 |
| | 101 | 1,643,901.7 | 1 | 1,643,901.7 | 1 | 1,643,901.7 | 1 | 1,643,901.7 | 1 | 1,643,901.7 | 1 | 1,643,901.7 | 2 |
| | 111 | 2,051,505.9 | 2 | 2,051,505.9 | 2 | 2,051,505.9 | 2 | 2,051,505.9 | 2 | 2,051,505.9 | 2 | 2,051,505.9 | 2 |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | 2,058,575.9 | 3 | 2,058,575.9 | 3 | 2,058,575.9 | 3 | 2,058,575.9 | 3 | 2,058,575.9 | 3 | 2,058,575.9 | 4 |
| | 141 | 1,958,608.9 | 4 | 1,958,608.9 | 5 | 1,958,608.9 | 5 | 1,958,608.9 | 5 | 1,958,608.9 | 5 | 1,958,608.9 | 6 |
| | 151 | 2,471,055.2 | 11 | 2,468,751.6 | 7 | 2,468,751.6 | 18 | 2,471,055.2 | 10 | 2,468,751.6 | 11 | 2,468,751.6 | 23 |
| d18512-c12-w120-3000-4000 | 51 | 1,130,761.9 | 0 | 1,130,761.9 | 0 | 1,130,761.9 | 0 | 1,130,761.9 | 0 | 1,130,761.9 | 0 | 1,130,761.9 | 0 |
| | 61 | 1,131,742.3 | 0 | 1,131,742.3 | 0 | 1,131,742.3 | 0 | 1,131,742.3 | 0 | 1,131,742.3 | 0 | 1,131,742.3 | 0 |
| | 71 | 1,331,635.4 | 2 | 1,331,635.4 | 2 | 1,331,635.4 | 2 | 1,331,635.4 | 2 | 1,331,635.4 | 2 | 1,331,635.4 | 2 |
| | 81 | 1,334,862.7 | 68 | 1,334,862.7 | 70 | 1,334,862.7 | 78 | 1,334,862.7 | 72 | 1,334,862.7 | 75 | 1,334,862.7 | 84 |
| | 91 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 | 1,541,793.5 | 2 |
| | 101 | 1,646,727.2 | 5 | 1,646,727.2 | 5 | 1,646,727.2 | 6 | 1,646,727.2 | 5 | 1,646,727.2 | 6 | 1,646,727.2 | 7 |
| | 111 | 1,753,358.9 | 388 | 1,753,358.9 | 396 | 1,753,358.9 | 170 | 1,753,358.9 | 187 | 1,753,358.9 | 199 | 1,753,358.9 | 315 |
| | 121 | 2,266,582.6 | 107 | 2,266,582.6 | 78 | 2,266,582.6 | 130 | 2,266,582.6 | 347 | 2,266,582.6 | 406 | 2,266,413.1 | 277 |
| | 131 | 1,852,476.8 | 16 | 1,852,476.8 | 19 | 1,852,476.8 | 24 | 1,852,476.8 | 19 | 1,852,476.8 | 36 | 1,852,416.9 | 36 |
| | 141 | 2,056,005.4 | 10 | 2,056,005.4 | 10 | 2,055,826.3 | 7 | 2,055,804.0 | 36 | 2,055,804.0 | 34 | 2,055,804.0 | 48 |
| | 151 | – | – | – | – | – | – | 2,163,157.4 | 11 | 2,163,157.4 | 13 | 2,162,012.2 | 16 |
| fn14461-c12-w45-3000-4000 | 51 | 815,322.1 | 0 | 815,322.1 | 0 | 815,322.1 | 0 | 815,322.1 | 0 | 815,322.1 | 0 | 815,322.1 | 0 |
| | 61 | 1,219,703.6 | 1 | 1,219,703.6 | 1 | 1,219,703.6 | 1 | 1,219,703.6 | 1 | 1,219,703.6 | 1 | 1,219,703.6 | 1 |
| | 71 | 1,017,995.7 | 2 | 1,017,995.7 | 2 | 1,017,995.7 | 2 | 1,017,995.7 | 2 | 1,017,995.7 | 2 | 1,017,995.7 | 3 |
| | 81 | 1,020,225.1 | 2 | 1,020,225.1 | 2 | 1,020,225.1 | 2 | 1,020,225.1 | 2 | 1,020,225.1 | 2 | 1,020,225.1 | 2 |
| | 91 | 1,122,445.0 | 18 | 1,122,445.0 | 19 | 1,122,445.0 | 18 | 1,122,445.0 | 45 | 1,122,384.0 | 45 | 1,122,384.0 | 37 |
| | 101 | 1,329,195.6 | 5 | 1,329,195.6 | 5 | 1,329,195.6 | 5 | 1,329,195.6 | 4 | 1,329,195.6 | 5 | 1,329,195.6 | 6 |
| | 111 | 1,431,057.5 | 9 | 1,431,057.5 | 9 | 1,431,057.5 | 9 | 1,431,057.5 | 10 | 1,431,057.5 | 11 | 1,430,459.0 | 19 |
| | 121 | 1,533,920.2 | 53 | 1,533,920.2 | 57 | 1,533,920.2 | 54 | 1,533,920.2 | 40 | 1,533,920.2 | 70 | 1,533,920.2 | 103 |
| | 131 | 1,740,516.9 | 116 | 1,740,516.9 | 123 | 1,740,516.9 | 123 | 1,740,417.4 | 97 | 1,740,417.4 | 102 | 1,740,417.4 | 115 |
| | 141 | 1,841,330.6 | 16 | 1,841,330.6 | 17 | 1,841,330.6 | 17 | 1,841,330.6 | 14 | 1,841,330.6 | 51 | 1,840,953.7 | 16 |
| | 151 | 1,840,648.7 | 633 | 1,840,648.7 | 574 | 1,840,648.7 | 601 | 1,840,648.7 | 663 | 1,840,648.7 | 1149 | 1,840,648.7 | 2788 |

*Continued on next page*

Table 17 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| fnl4461-c12-w60-3000-4000 | 51 | 716,980.2 | 1 | 716,980.2 | 1 | 716,980.2 | 1 | 716,429.1 | 1 | 716,429.1 | 1 | 716,429.1 | 1 |
| | 61 | 816,230.9 | 1 | 816,230.9 | 1 | 816,230.9 | 1 | 816,230.9 | 1 | 816,230.9 | 1 | 816,230.9 | 1 |
| | 71 | 919,729.1 | 23 | 919,729.1 | 18 | 919,729.1 | 19 | 919,729.1 | 24 | 919,729.1 | 35 | 918,955.1 | 3 |
| | 81 | 1,023,126.7 | 38 | 1,022,892.3 | 33 | 1,022,123.7 | 10 | 1,023,126.7 | 62 | 1,021,816.2 | 4 | 1,021,698.9 | 6 |
| | 91 | 1,021,866.2 | 2 | 1,021,866.2 | 2 | 1,021,866.2 | 3 | 1,021,866.2 | 3 | 1,021,866.2 | 3 | 1,021,866.2 | 3 |
| | 101 | 1,226,799.5 | 67 | 1,226,799.5 | 77 | 1,226,799.5 | 76 | 1,226,799.5 | 93 | 1,226,679.8 | 108 | 1,226,679.8 | 222 |
| | 111 | 1,332,461.7 | 167 | 1,332,461.7 | 169 | 1,332,461.7 | 128 | 1,332,461.7 | 141 | 1,332,461.7 | 197 | 1,330,764.1 | 32 |
| | 121 | 1,332,151.8 | 56 | 1,332,151.8 | 61 | 1,332,151.8 | 71 | 1,332,151.8 | 60 | 1,332,151.8 | 64 | 1,332,151.8 | 108 |
| | 131 | 1,638,392.7 | 16 | 1,638,392.7 | 17 | 1,638,392.7 | 17 | 1,638,375.4 | 55 | 1,638,375.4 | 75 | 1,638,375.4 | 162 |
| | 141 | 1,637,827.2 | 85 | 1,637,827.2 | 87 | 1,637,827.2 | 84 | 1,637,827.2 | 141 | 1,637,827.2 | 120 | 1,637,827.2 | 1261 |
| | 151 | 1,640,303.8 | 2828 | 1,640,303.8 | 2872 | – | – | 1,640,303.8 | 2781 | – | – | – | – |
| fnl4461-c12-w75-3000-4000 | 51 | 814,477.0 | 1 | 814,477.0 | 1 | 814,477.0 | 1 | 814,477.0 | 1 | 814,477.0 | 1 | 814,477.0 | 1 |
| | 61 | 816,591.5 | 1 | 816,591.5 | 1 | 816,591.5 | 1 | 816,591.5 | 1 | 816,591.5 | 1 | 816,591.5 | 1 |
| | 71 | 918,140.1 | 4 | 918,140.1 | 4 | 918,140.1 | 5 | 918,140.1 | 4 | 918,140.1 | 5 | 918,140.1 | 7 |
| | 81 | 1,020,121.1 | 3 | 1,020,121.1 | 3 | 1,020,121.1 | 3 | 1,020,121.1 | 3 | 1,020,121.1 | 4 | 1,020,121.1 | 6 |
| | 91 | 1,122,987.2 | 13 | 1,122,987.2 | 12 | 1,024,785.7 | 3 | 1,122,987.2 | 11 | 1,024,785.7 | 3 | 1,024,785.7 | 3 |
| | 101 | 1,326,847.1 | 10 | 1,326,847.1 | 10 | 1,326,847.1 | 11 | 1,326,847.1 | 32 | 1,326,847.1 | 36 | 1,326,847.1 | 41 |
| | 111 | 1,229,315.1 | 76 | 1,229,315.1 | 77 | 1,229,315.1 | 66 | 1,229,315.1 | 66 | 1,229,315.1 | 73 | 1,229,258.3 | 67 |
| | 121 | 1,432,330.4 | 110 | 1,432,330.4 | 113 | 1,432,330.4 | 133 | 1,432,330.4 | 208 | 1,432,330.4 | 235 | 1,431,172.9 | 47 |
| | 131 | 1,437,189.8 | 61 | 1,437,189.8 | 67 | 1,437,189.8 | 1000 | 1,437,189.8 | 183 | 1,436,718.9 | 342 | 1,436,718.9 | 343 |
| | 141 | 1,738,143.6 | 196 | 1,738,143.6 | 206 | 1,738,143.6 | 157 | 1,738,143.6 | 176 | 1,738,143.6 | 282 | 1,738,143.6 | 527 |
| | 151 | 1,642,088.1 | 1544 | 1,642,088.1 | 927 | 1,642,088.1 | 1234 | – | – | – | – | – | – |
| fnl4461-c12-w90-3000-4000 | 51 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 | 714,277.8 | 0 |
| | 61 | 916,166.2 | 15 | 916,166.2 | 16 | 916,166.2 | 17 | 916,166.2 | 16 | 916,166.2 | 16 | 916,166.2 | 36 |
| | 71 | 915,975.2 | 5 | 915,975.2 | 5 | 915,975.2 | 5 | 915,975.2 | 8 | 915,975.2 | 9 | 915,975.2 | 13 |
| | 81 | 922,050.2 | 4 | 922,050.2 | 4 | 922,050.2 | 4 | 922,050.2 | 4 | 922,050.2 | 4 | 922,050.2 | 4 |
| | 91 | 1,023,779.3 | 6 | 1,023,779.3 | 6 | 1,023,779.3 | 12 | 1,023,779.3 | 6 | 1,023,779.3 | 13 | 1,023,779.3 | 19 |
| | 101 | 1,227,890.9 | 228 | 1,227,890.9 | 168 | 1,227,890.9 | 180 | 1,227,779.1 | 177 | 1,227,779.1 | 330 | 1,227,779.1 | 332 |
| | 111 | 1,231,257.8 | 25 | 1,231,257.8 | 26 | 1,231,257.8 | 31 | 1,231,257.8 | 28 | 1,231,257.8 | 168 | 1,231,257.8 | 150 |
| | 121 | 1,433,013.2 | 561 | 1,433,013.2 | 586 | 1,433,013.2 | 376 | 1,433,013.2 | 628 | 1,432,773.2 | 1181 | 1,432,300.7 | 153 |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | 1,438,294.8 | 742 | 1,438,294.8 | 904 | 1,438,294.8 | 1186 | 1,438,294.8 | 821 | 1,438,294.8 | 1955 | 1,437,445.7 | 777 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| fnl4461-c12-w120-3000-4000 | 51 | 611,191.3 | 3 | 611,191.3 | 4 | 611,191.3 | 5 | 611,191.3 | 4 | 611,191.3 | 4 | 611,191.3 | 6 |
| | 61 | 714,748.1 | 15 | 714,748.1 | 18 | 714,748.1 | 16 | 714,674.9 | 12 | 714,674.9 | 18 | 714,674.9 | 30 |
| | 71 | 716,179.7 | 7 | 716,179.7 | 8 | 716,179.7 | 9 | 716,179.7 | 9 | 716,179.7 | 11 | 716,179.7 | 21 |
| | 81 | 820,681.8 | 124 | 820,463.8 | 88 | 820,463.8 | 105 | 820,554.8 | 96 | 820,463.8 | 118 | 820,463.8 | 208 |
| | 91 | – | – | 919,677.0 | 1095 | 919,447.9 | 348 | – | – | 919,677.0 | 1939 | 919,447.9 | 807 |
| | 101 | 1,127,136.1 | 53 | 1,127,136.1 | 187 | 1,127,136.1 | 198 | 1,127,136.1 | 149 | 1,127,136.1 | 430 | 1,127,125.9 | 846 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| nrw1379-c12-w45-3000-4000 | 51 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 | 816,194.7 | 1 |
| | 61 | 1,018,665.0 | 1 | 1,018,665.0 | 1 | 1,018,665.0 | 1 | 1,018,665.0 | 1 | 1,018,665.0 | 1 | 1,018,665.0 | 2 |
| | 71 | 1,222,896.0 | 214 | 1,222,896.0 | 216 | 1,222,896.0 | 221 | 1,122,157.0 | 1 | 1,121,996.2 | 1 | 1,121,996.2 | 1 |
| | 81 | 1,231,263.9 | 1 | 1,231,263.9 | 1 | 1,231,263.9 | 1 | 1,231,263.9 | 1 | 1,231,263.9 | 1 | 1,231,263.9 | 1 |
| | 91 | 1,428,025.0 | 2 | 1,428,025.0 | 2 | 1,428,025.0 | 2 | 1,428,025.0 | 2 | 1,428,025.0 | 2 | 1,428,025.0 | 2 |
| | 101 | 1,429,171.2 | 10 | 1,429,171.2 | 9 | 1,429,171.2 | 10 | 1,429,171.2 | 12 | 1,429,171.2 | 15 | 1,429,171.2 | 14 |
| | 111 | 1,534,393.5 | 8 | 1,534,393.5 | 8 | 1,534,393.5 | 8 | 1,534,393.5 | 8 | 1,534,393.5 | 9 | 1,534,393.5 | 15 |
| | 121 | 1,640,509.3 | 358 | 1,640,509.3 | 374 | 1,640,509.3 | 382 | 1,640,509.3 | 315 | 1,640,509.3 | 372 | 1,640,509.3 | 222 |
| | 131 | 1,940,810.2 | 28 | 1,940,810.2 | 31 | 1,940,810.2 | 24 | 1,940,739.6 | 21 | 1,940,739.6 | 21 | 1,940,739.6 | 33 |
| | 141 | 2,148,961.2 | 39 | 2,148,961.2 | 44 | 2,148,961.2 | 43 | 2,148,961.2 | 32 | 2,148,961.2 | 68 | 2,148,773.5 | 704 |
| | 151 | 2,250,502.0 | 4 | 2,250,502.0 | 5 | 2,250,502.0 | 5 | 2,250,502.0 | 4 | 2,250,502.0 | 5 | 2,250,502.0 | 5 |

*Continued on next page*

Table 17 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| nrw1379-c12-w60-3000-4000 | 51 | 814,734.2 | 1 | 814,734.2 | 1 | 814,734.2 | 1 | 814,734.2 | 1 | 814,734.2 | 1 | 814,734.2 | 1 |
| | 61 | 818,866.5 | 1 | 818,866.5 | 1 | 818,866.5 | 1 | 818,866.5 | 1 | 818,866.5 | 1 | 818,866.5 | 1 |
| | 71 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 1 |
| | 81 | 1,226,945.6 | 1 | 1,226,945.6 | 1 | 1,226,945.6 | 1 | 1,226,945.6 | 1 | 1,226,945.6 | 1 | 1,226,945.6 | 1 |
| | 91 | 1,327,808.8 | 7 | 1,327,808.8 | 7 | 1,327,808.8 | 8 | 1,327,808.8 | 11 | 1,327,808.8 | 12 | 1,327,808.8 | 15 |
| | 101 | 1,432,098.8 | 2 | 1,432,098.8 | 2 | 1,432,098.8 | 2 | 1,432,098.8 | 2 | 1,432,098.8 | 2 | 1,432,098.8 | 3 |
| | 111 | 1,635,527.5 | 3 | 1,635,527.5 | 4 | 1,635,527.5 | 4 | 1,635,527.5 | 4 | 1,635,527.5 | 4 | 1,635,527.5 | 5 |
| | 121 | 1,639,158.9 | 24 | 1,639,158.9 | 25 | 1,639,158.9 | 24 | 1,639,158.9 | 27 | 1,639,158.9 | 22 | 1,639,158.9 | 45 |
| | 131 | 1,639,307.0 | 47 | 1,639,307.0 | 48 | 1,639,307.0 | 55 | 1,639,307.0 | 45 | 1,639,307.0 | 59 | 1,639,307.0 | 98 |
| | 141 | 2,050,170.7 | 1482 | 2,050,170.7 | 1401 | 2,050,170.7 | 924 | 2,050,170.7 | 813 | 2,049,231.6 | 67 | 2,049,231.6 | 100 |
| | 151 | 1,844,974.1 | 96 | 1,844,974.1 | 126 | 1,844,974.1 | 109 | 1,844,974.1 | 112 | 1,844,467.8 | 177 | 1,844,467.8 | 565 |
| nrw1379-c12-w75-3000-4000 | 51 | 1,019,777.3 | 1 | 1,019,777.3 | 1 | 1,019,777.3 | 1 | 1,019,777.3 | 1 | 1,019,777.3 | 1 | 1,019,777.3 | 1 |
| | 61 | 1,019,550.8 | 1 | 1,019,550.8 | 1 | 1,019,550.8 | 1 | 1,019,550.8 | 1 | 1,019,550.8 | 1 | 1,019,550.8 | 1 |
| | 71 | 1,021,737.4 | 1 | 1,021,737.4 | 1 | 1,021,737.4 | 1 | 1,021,737.4 | 1 | 1,021,737.4 | 1 | 1,021,737.4 | 1 |
| | 81 | 1,125,721.3 | 2 | 1,125,721.3 | 2 | 1,125,721.3 | 2 | 1,125,721.3 | 2 | 1,125,721.3 | 2 | 1,125,721.3 | 2 |
| | 91 | 1,328,831.3 | 5 | 1,328,831.3 | 5 | 1,328,831.3 | 5 | 1,328,831.3 | 5 | 1,328,831.3 | 6 | 1,328,831.3 | 7 |
| | 101 | 1,230,400.0 | 28 | 1,230,400.0 | 22 | 1,230,400.0 | 19 | 1,230,400.0 | 53 | 1,230,400.0 | 45 | 1,230,267.3 | 147 |
| | 111 | 1,534,504.7 | 20 | 1,534,504.7 | 21 | 1,534,504.7 | 23 | 1,534,504.7 | 12 | 1,534,504.7 | 13 | 1,533,428.6 | 3 |
| | 121 | 1,533,224.2 | 35 | 1,533,224.2 | 33 | 1,533,224.2 | 71 | 1,533,224.2 | 30 | 1,533,224.2 | 51 | 1,533,224.2 | 85 |
| | 131 | 1,639,326.0 | 146 | 1,639,326.0 | 132 | 1,639,326.0 | 125 | 1,639,326.0 | 113 | 1,639,326.0 | 234 | 1,639,326.0 | 989 |
| | 141 | 1,840,511.1 | 282 | 1,840,511.1 | 283 | 1,840,511.1 | 194 | 1,839,991.6 | 317 | 1,745,133.4 | 1464 | 1,744,226.6 | 1835 |
| | 151 | 1,745,062.1 | 24 | 1,745,062.1 | 26 | 1,745,062.1 | 27 | 1,745,062.1 | 20 | 1,745,062.1 | 29 | 1,744,676.7 | 39 |
| nrw1379-c12-w90-3000-4000 | 51 | 816,076.6 | 0 | 815,997.7 | 1 | 815,997.7 | 0 | 816,076.6 | 0 | 815,997.7 | 0 | 815,997.7 | 0 |
| | 61 | 1,323,741.0 | 1 | 1,323,741.0 | 1 | 1,323,741.0 | 1 | 1,323,741.0 | 1 | 1,323,741.0 | 1 | 1,323,741.0 | 1 |
| | 71 | 1,121,318.1 | 4 | 1,121,318.1 | 4 | 1,121,318.1 | 5 | 1,121,318.1 | 5 | 1,121,318.1 | 6 | 1,121,318.1 | 9 |
| | 81 | 1,026,857.8 | 4 | 1,026,857.8 | 5 | 1,026,857.8 | 6 | 1,026,857.8 | 4 | 1,026,857.8 | 5 | 1,026,845.6 | 10 |
| | 91 | 1,324,967.4 | 3 | 1,324,967.4 | 3 | 1,324,967.4 | 4 | 1,324,967.4 | 3 | 1,324,967.4 | 3 | 1,324,967.4 | 4 |
| | 101 | 1,429,286.4 | 5 | 1,429,286.4 | 5 | 1,429,253.6 | 5 | 1,429,286.4 | 5 | 1,429,253.6 | 7 | 1,429,253.6 | 6 |
| | 111 | 1,329,425.7 | 6 | 1,329,425.7 | 6 | 1,329,425.7 | 7 | 1,329,425.7 | 9 | 1,329,425.7 | 8 | 1,329,425.7 | 10 |
| | 121 | 1,433,668.6 | 7 | 1,433,668.6 | 7 | 1,433,668.6 | 10 | 1,433,668.6 | 9 | 1,433,668.6 | 10 | 1,433,668.6 | 14 |
| | 131 | 1,435,014.1 | 3259 | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | 1,643,287.8 | 177 | 1,643,287.8 | 189 | 1,643,287.8 | 255 | 1,643,287.8 | 239 | 1,643,287.8 | 305 | 1,643,287.8 | 430 |
| nrw1379-c12-w120-3000-4000 | 51 | 716,031.4 | 1 | 716,031.4 | 1 | 716,031.4 | 1 | 716,031.4 | 1 | 716,031.4 | 2 | 716,031.4 | 2 |
| | 61 | 919,057.9 | 1 | 919,057.9 | 1 | 919,057.9 | 1 | 919,057.9 | 1 | 919,057.9 | 1 | 919,057.9 | 1 |
| | 71 | 1,023,888.8 | 3 | 1,023,681.9 | 3 | 1,023,681.9 | 3 | 1,023,888.8 | 3 | 1,023,681.9 | 5 | 1,023,681.9 | 7 |
| | 81 | 1,024,721.0 | 4 | 1,024,721.0 | 5 | 1,024,721.0 | 9 | 1,024,721.0 | 4 | 1,024,721.0 | 6 | 1,024,649.4 | 17 |
| | 91 | 1,123,465.6 | 26 | 1,123,465.6 | 28 | 1,123,379.3 | 9 | 1,123,465.6 | 24 | 1,123,465.6 | 44 | 1,123,379.3 | 24 |
| | 101 | 1,329,534.2 | 9 | 1,329,534.2 | 13 | 1,231,998.2 | 4 | 1,233,451.9 | 36 | 1,233,295.2 | 74 | 1,231,998.2 | 17 |
| | 111 | 1,234,662.0 | 3 | 1,234,662.0 | 4 | 1,234,662.0 | 4 | 1,234,662.0 | 3 | 1,234,662.0 | 4 | 1,234,662.0 | 4 |
| | 121 | – | – | – | – | 1,336,743.3 | 3009 | – | – | – | – | – | – |
| | 131 | 1,537,202.4 | 658 | 1,537,202.4 | 764 | 1,537,202.4 | 749 | 1,537,128.9 | 1671 | 1,536,920.2 | 1733 | 1,536,824.9 | 1855 |
| | 141 | 1,741,021.1 | 2948 | 1,740,851.4 | 616 | 1,740,851.4 | 739 | – | – | 1,740,582.6 | 861 | 1,740,582.6 | 1820 |
| | 151 | – | – | – | – | – | – | 1,540,630.7 | 1090 | 1,540,630.7 | 1192 | – | – |
| Solved | | 279 | | 279 | | 280 | | 279 | | 279 | | 279 | |
| ∅ Time | | 150.6 | | 134.2 | | 145.2 | | 146.5 | | 154.6 | | 184.1 | |

**Table 18: Detailed computational results $\delta = 50$ and with three stacks**

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w15-500-1000 | 51 | 704,424.6 | 0 | 704,424.6 | 0 | 704,424.6 | 0 | 704,424.6 | 0 | 704,424.6 | 0 | 704,424.6 | 0 |
| | 61 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 | 905,043.7 | 1 |
| | 71 | 905,856.9 | 3 | 905,856.9 | 3 | 905,856.9 | 3 | 905,856.9 | 3 | 905,856.9 | 4 | 905,856.9 | 5 |
| | 81 | 1,307,786.1 | 4 | 1,307,786.1 | 4 | 1,307,786.1 | 4 | 1,307,786.1 | 4 | 1,307,786.1 | 4 | 1,307,786.1 | 6 |
| | 91 | 1,308,336.7 | 26 | 1,308,336.7 | 27 | 1,308,336.7 | 28 | 1,308,336.7 | 27 | 1,308,336.7 | 28 | 1,308,336.7 | 46 |
| | 101 | 1,510,445.5 | 2 | 1,510,445.5 | 2 | 1,510,445.5 | 2 | 1,510,445.5 | 2 | 1,510,445.5 | 2 | 1,510,445.5 | 3 |
| | 111 | 1,712,128.6 | 1 | 1,712,128.6 | 1 | 1,712,128.6 | 1 | 1,712,128.6 | 1 | 1,712,128.6 | 1 | 1,712,128.6 | 2 |
| | 121 | 1,611,520.9 | 141 | 1,611,520.9 | 149 | 1,611,520.9 | 152 | 1,611,520.9 | 145 | 1,611,520.9 | 153 | 1,611,520.9 | 233 |
| | 131 | 1,712,138.9 | 95 | 1,712,138.9 | 98 | 1,712,138.9 | 100 | 1,712,138.9 | 96 | 1,712,138.9 | 101 | 1,712,138.9 | 152 |
| | 141 | 1,913,410.5 | 20 | 1,913,410.5 | 21 | 1,913,410.5 | 22 | 1,913,410.5 | 21 | 1,913,410.5 | 22 | 1,913,410.5 | 29 |
| | 151 | 2,015,337.3 | 166 | 2,015,337.3 | 174 | 2,015,337.3 | 177 | 2,015,337.3 | 172 | 2,015,337.3 | 159 | 2,015,337.3 | 244 |
| a280-c12-w15-1000-1200 | 51 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 | 804,354.2 | 0 |
| | 61 | 804,876.2 | 0 | 804,876.2 | 1 | 804,876.2 | 1 | 804,876.2 | 0 | 804,876.2 | 1 | 804,876.2 | 1 |
| | 71 | 906,910.2 | 1 | 906,910.2 | 1 | 906,910.2 | 1 | 906,910.2 | 1 | 906,910.2 | 1 | 906,910.2 | 1 |
| | 81 | 1,207,404.1 | 1 | 1,207,404.1 | 1 | 1,207,404.1 | 1 | 1,207,404.1 | 1 | 1,207,404.1 | 1 | 1,207,404.1 | 2 |
| | 91 | 1,208,755.0 | 4 | 1,208,755.0 | 4 | 1,208,755.0 | 5 | 1,208,755.0 | 4 | 1,208,755.0 | 5 | 1,208,755.0 | 7 |
| | 101 | 1,209,308.7 | 10 | 1,209,308.7 | 11 | 1,209,308.7 | 11 | 1,209,308.7 | 11 | 1,209,308.7 | 11 | 1,209,308.7 | 15 |
| | 111 | 1,210,475.6 | 33 | 1,210,475.6 | 35 | 1,210,475.6 | 35 | 1,210,475.6 | 34 | 1,210,475.6 | 36 | 1,210,475.6 | 49 |
| | 121 | 1,109,911.1 | 279 | 1,109,911.1 | 290 | 1,109,911.1 | 297 | 1,109,911.1 | 284 | 1,109,911.1 | 256 | 1,109,911.1 | 380 |
| | 131 | 1,412,240.2 | 164 | 1,412,240.2 | 170 | 1,412,240.2 | 174 | 1,412,240.2 | 166 | 1,412,240.2 | 178 | 1,412,240.2 | 239 |
| | 141 | 1,713,062.8 | 6 | 1,713,062.8 | 6 | 1,713,062.8 | 6 | 1,713,062.8 | 6 | 1,713,062.8 | 7 | 1,713,062.8 | 9 |
| | 151 | 1,614,370.8 | 550 | 1,614,370.8 | 584 | 1,614,370.8 | 591 | 1,614,370.8 | 561 | 1,614,370.8 | 606 | 1,614,370.8 | 820 |
| a280-c12-w15-1500-2000 | 51 | 503,814.4 | 2 | 503,814.4 | 2 | 503,814.4 | 2 | 503,814.4 | 2 | 503,814.4 | 3 | 503,814.4 | 2 |
| | 61 | 604,889.8 | 2 | 604,889.8 | 2 | 604,889.8 | 2 | 604,889.8 | 2 | 604,889.8 | 2 | 604,889.8 | 4 |
| | 71 | 705,692.3 | 107 | 705,692.3 | 111 | 705,692.3 | 113 | 705,692.3 | 119 | 705,692.3 | 141 | 705,692.3 | 195 |
| | 81 | 806,725.7 | 44 | 806,725.7 | 46 | 806,725.7 | 47 | 806,725.7 | 63 | 806,590.5 | 32 | 806,590.5 | 46 |
| | 91 | 808,044.4 | 56 | 808,044.4 | 59 | 808,044.4 | 60 | 808,044.4 | 57 | 808,044.4 | 54 | 808,044.4 | 89 |
| | 101 | 908,310.7 | 578 | 908,310.7 | 592 | 908,310.7 | 601 | 908,310.7 | 519 | 908,310.7 | 723 | 908,310.7 | 912 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | 1,110,103.1 | 967 | 1,110,103.1 | 983 | 1,110,103.1 | 1010 | 1,110,103.1 | 1465 | 1,110,103.1 | 1291 | 1,110,103.1 | 2315 |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w30-500-1000 | 51 | 604,267.6 | 0 | 604,267.6 | 0 | 604,267.6 | 0 | 604,267.6 | 0 | 604,267.6 | 0 | 604,267.6 | 0 |
| | 61 | 804,469.6 | 4 | 804,469.6 | 4 | 804,469.6 | 4 | 804,469.6 | 4 | 804,469.6 | 5 | 804,469.6 | 7 |
| | 71 | 905,470.0 | 4 | 905,470.0 | 4 | 905,470.0 | 4 | 905,470.0 | 4 | 905,470.0 | 4 | 905,470.0 | 5 |
| | 81 | 1,106,885.7 | 17 | 1,106,885.7 | 17 | 1,106,885.7 | 18 | 1,106,885.7 | 17 | 1,106,885.7 | 17 | 1,106,885.7 | 24 |
| | 91 | 1,208,008.2 | 21 | 1,208,008.2 | 22 | 1,208,008.2 | 23 | 1,208,008.2 | 22 | 1,208,008.2 | 24 | 1,207,973.2 | 36 |
| | 101 | 1,309,328.8 | 19 | 1,309,328.8 | 19 | 1,309,328.8 | 20 | 1,309,328.8 | 19 | 1,309,328.8 | 23 | 1,309,328.8 | 32 |
| | 111 | 1,310,275.9 | 379 | 1,310,275.9 | 382 | 1,310,275.9 | 389 | 1,310,275.9 | 447 | 1,310,275.9 | 413 | 1,310,050.0 | 79 |
| | 121 | 1,411,648.2 | 711 | 1,411,648.2 | 716 | 1,411,648.2 | 726 | 1,411,648.2 | 633 | 1,411,648.2 | 694 | 1,411,648.2 | 966 |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | 1,612,884.8 | 426 | 1,612,884.8 | 445 | 1,612,884.8 | 443 | 1,612,884.8 | 468 | 1,612,884.8 | 548 | 1,612,884.8 | 486 |
| | 151 | 1,612,661.0 | 2916 | 1,612,661.0 | 2997 | 1,612,661.0 | 3562 | 1,612,661.0 | 3268 | 1,612,661.0 | 2943 | – | – |
| a280-c12-w30-1000-1200 | 51 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 | 704,324.0 | 0 |
| | 61 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 | 704,338.4 | 1 |
| | 71 | 806,079.9 | 8 | 806,079.9 | 8 | 806,079.9 | 8 | 806,079.9 | 8 | 806,079.9 | 8 | 806,079.9 | 15 |
| | 81 | 1,006,868.9 | 3 | 1,006,868.9 | 3 | 1,006,868.9 | 3 | 1,006,868.9 | 3 | 1,006,868.9 | 3 | 1,006,868.9 | 3 |
| | 91 | 1,107,908.4 | 21 | 1,107,908.4 | 21 | 1,107,908.4 | 21 | 1,107,908.4 | 22 | 1,107,908.4 | 23 | 1,107,908.4 | 29 |
| | 101 | 1,109,226.8 | 16 | 1,109,226.8 | 16 | 1,109,226.8 | 16 | 1,109,226.8 | 17 | 1,109,226.8 | 17 | 1,109,226.8 | 21 |
| | 111 | 1,210,549.5 | 42 | 1,210,549.5 | 43 | 1,210,549.5 | 43 | 1,210,549.5 | 44 | 1,210,549.5 | 44 | 1,210,549.5 | 55 |
| | 121 | 1,410,917.4 | 265 | 1,410,917.4 | 268 | 1,410,917.4 | 272 | 1,410,917.4 | 272 | 1,410,917.4 | 278 | 1,410,917.4 | 400 |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | 1,411,699.4 | 2489 | 1,411,699.4 | 2412 | 1,411,699.4 | 2511 | 1,411,699.4 | 2126 | 1,411,699.4 | 2218 | 1,411,699.4 | 2869 |
| | 151 | – | – | – | – | – | – | – | – | 1,512,108.9 | 3355 | – | – |

*Continued on next page*

Table 18 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| a280-c12-w30-1500-2000 | 51 | 503,573.6 | 15 | 503,573.6 | 16 | 503,573.6 | 16 | 503,573.6 | 16 | 503,573.6 | 18 | 503,573.6 | 29 |
| | 61 | 504,708.6 | 14 | 504,708.6 | 14 | 504,708.6 | 14 | 504,708.6 | 16 | 504,708.6 | 15 | 504,708.6 | 134 |
| | 71 | 705,401.6 | 126 | 705,401.6 | 127 | 705,401.6 | 130 | 705,395.1 | 128 | 705,395.1 | 111 | 705,395.1 | 172 |
| | 81 | 706,323.8 | 13 | 706,323.8 | 12 | 706,323.8 | 13 | 706,323.8 | 17 | 706,323.8 | 15 | 706,323.8 | 21 |
| | 91 | 706,974.6 | 822 | 706,974.6 | 816 | 706,974.6 | 849 | 706,974.6 | 1173 | 706,974.6 | 996 | 706,974.6 | 1438 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | 809,615.6 | 1754 |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-500-1000 | 51 | 604,419.2 | 1 | 604,419.2 | 1 | 604,419.2 | 1 | 604,419.2 | 1 | 604,419.2 | 1 | 604,419.2 | 1 |
| | 61 | 704,271.7 | 203 | 704,271.7 | 205 | 704,271.7 | 268 | 704,271.7 | 194 | 704,271.7 | 219 | 704,271.7 | 251 |
| | 71 | 805,308.4 | 72 | 805,308.4 | 74 | 805,308.4 | 75 | 805,308.4 | 87 | 805,308.4 | 72 | 805,290.3 | 114 |
| | 81 | 906,968.4 | 152 | 906,968.4 | 155 | 906,968.4 | 166 | 906,968.4 | 166 | 906,968.4 | 172 | 906,968.4 | 194 |
| | 91 | 1,007,065.2 | 408 | 1,007,065.2 | 412 | 1,007,065.2 | 431 | 1,007,065.2 | 377 | 1,007,065.2 | 518 | 1,007,065.2 | 642 |
| | 101 | 1,209,187.9 | 1653 | 1,209,187.9 | 1671 | 1,209,187.9 | 1727 | 1,209,187.9 | 1685 | – | – | 1,209,187.9 | 2398 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | 1,612,341.7 | 2607 | 1,612,341.7 | 2629 | 1,612,341.7 | 2399 | 1,612,341.7 | 2383 | 1,612,341.7 | 2387 | 1,612,341.7 | 2752 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1000-1200 | 51 | 703,880.0 | 1 | 703,880.0 | 1 | 703,880.0 | 1 | 703,880.0 | 1 | 703,880.0 | 1 | 703,880.0 | 1 |
| | 61 | 603,773.0 | 2 | 603,773.0 | 2 | 603,773.0 | 2 | 603,773.0 | 2 | 603,773.0 | 3 | 603,773.0 | 3 |
| | 71 | 705,150.6 | 6 | 705,150.6 | 6 | 705,150.6 | 7 | 705,150.6 | 7 | 705,150.6 | 7 | 705,150.6 | 9 |
| | 81 | 806,567.3 | 19 | 806,567.3 | 19 | 806,567.3 | 19 | 806,567.3 | 20 | 806,567.3 | 19 | 806,567.3 | 24 |
| | 91 | 907,833.7 | 10 | 907,833.7 | 10 | 907,833.7 | 11 | 907,833.7 | 11 | 907,833.7 | 11 | 907,833.7 | 14 |
| | 101 | 1,108,782.9 | 163 | 1,108,782.9 | 162 | 1,108,782.9 | 169 | 1,108,782.9 | 170 | 1,108,782.9 | 172 | 1,108,782.9 | 227 |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| a280-c12-w45-1500-2000 | 51 | 503,493.1 | 3 | 503,493.1 | 3 | 503,493.1 | 3 | 503,493.1 | 3 | 503,493.1 | 3 | 503,493.1 | 4 |
| | 61 | 604,088.7 | 27 | 604,088.7 | 26 | 604,088.7 | 27 | 604,088.7 | 30 | 604,088.7 | 29 | 604,088.7 | 61 |
| | 71 | 604,962.3 | 1712 | – | – | – | – | 604,962.3 | 2800 | 604,962.3 | 3549 | – | – |
| | 81 | 606,857.0 | 132 | 606,857.0 | 143 | 606,857.0 | 139 | 606,857.0 | 142 | 606,857.0 | 144 | 606,857.0 | 202 |
| | 91 | 806,620.6 | 139 | 806,620.6 | 148 | 806,620.6 | 146 | 806,620.6 | 183 | 806,620.6 | 141 | 806,620.6 | 254 |
| | 101 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 111 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 121 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 131 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| brd14051-c12-w45-3000-4000 | 51 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 | 1,429,426.2 | 0 |
| | 61 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 | 1,639,735.5 | 0 |
| | 71 | 1,437,431.0 | 1 | 1,437,431.0 | 1 | 1,437,431.0 | 1 | 1,437,416.4 | 1 | 1,437,416.4 | 1 | 1,437,416.4 | 1 |
| | 81 | 1,336,496.4 | 17 | 1,336,496.4 | 16 | 1,336,496.4 | 17 | 1,336,496.4 | 17 | 1,336,496.4 | 19 | 1,336,496.4 | 22 |
| | 91 | 1,852,600.3 | 1 | 1,852,600.3 | 1 | 1,852,600.3 | 1 | 1,852,600.3 | 1 | 1,852,600.3 | 1 | 1,852,600.3 | 1 |
| | 101 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 | 1,749,899.6 | 1 |
| | 111 | 2,052,469.4 | 3 | 2,052,469.4 | 2 | 2,052,469.4 | 2 | 2,052,469.4 | 3 | 2,052,469.4 | 3 | 2,052,469.4 | 3 |
| | 121 | 2,057,355.6 | 202 | 2,057,355.6 | 199 | 2,057,355.6 | 280 | 2,057,355.6 | 227 | 2,057,355.6 | 229 | 2,057,355.6 | 299 |
| | 131 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 | 2,677,706.6 | 1 |
| | 141 | 2,469,518.3 | 3 | 2,469,518.3 | 3 | 2,469,518.3 | 3 | 2,469,518.3 | 2 | 2,469,518.3 | 3 | 2,469,518.3 | 3 |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |

*Continued on next page*

Table 18 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| brd14051-c12-w60-3000-4000 | 51 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 | 1,228,636.6 | 0 |
| | 61 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 | 1,230,492.4 | 0 |
| | 71 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 | 1,435,777.8 | 1 |
| | 81 | 1,639,743.2 | 0 | 1,639,743.2 | 0 | 1,639,743.2 | 0 | 1,639,743.2 | 0 | 1,639,743.2 | 0 | 1,639,743.2 | 0 |
| | 91 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 | 1,641,132.3 | 2 |
| | 101 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 | 1,847,837.5 | 2 |
| | 111 | 1,645,837.7 | 3 | 1,645,837.7 | 3 | 1,645,837.7 | 3 | 1,645,837.7 | 3 | 1,645,837.7 | 3 | 1,645,837.7 | 5 |
| | 121 | 2,466,878.7 | 6 | 2,466,878.7 | 6 | 2,466,878.7 | 7 | 2,466,878.7 | 7 | 2,466,878.7 | 6 | 2,466,878.7 | 8 |
| | 131 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 | 2,470,949.2 | 1 |
| | 141 | 2,262,338.5 | 10 | 2,262,338.5 | 12 | 2,262,338.5 | 12 | 2,262,338.5 | 10 | 2,262,338.5 | 12 | 2,262,338.5 | 13 |
| | 151 | 2,470,259.0 | 212 | 2,470,259.0 | 219 | 2,470,259.0 | 410 | 2,470,259.0 | 189 | 2,470,129.7 | 134 | 2,470,083.8 | 365 |
| brd14051-c12-w75-3000-4000 | 51 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 0 | 1,025,843.4 | 1 |
| | 61 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 | 1,234,840.5 | 0 |
| | 71 | 1,435,348.1 | 12 | 1,435,348.1 | 12 | 1,435,348.1 | 12 | 1,435,348.1 | 12 | 1,435,348.1 | 12 | 1,435,348.1 | 13 |
| | 81 | 1,640,034.5 | 1 | 1,640,034.5 | 1 | 1,640,034.5 | 1 | 1,640,034.5 | 1 | 1,640,034.5 | 1 | 1,640,034.5 | 1 |
| | 91 | 1,540,176.5 | 582 | 1,540,176.5 | 577 | 1,540,176.5 | 581 | 1,540,176.5 | 1024 | 1,540,176.5 | 1096 | 1,540,176.5 | 1176 |
| | 101 | 1,852,282.5 | 43 | 1,852,282.5 | 43 | 1,852,282.5 | 45 | 1,852,282.5 | 44 | 1,852,282.5 | 44 | 1,852,282.5 | 51 |
| | 111 | 1,852,728.1 | 3 | 1,852,728.1 | 3 | 1,852,728.1 | 3 | 1,852,728.1 | 3 | 1,852,728.1 | 3 | 1,852,728.1 | 3 |
| | 121 | 1,955,880.2 | 1 | 1,955,880.2 | 1 | 1,955,880.2 | 1 | 1,955,880.2 | 1 | 1,955,880.2 | 1 | 1,955,880.2 | 1 |
| | 131 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 1 | 2,167,641.1 | 2 |
| | 141 | 1,850,844.0 | 4 | 1,850,844.0 | 4 | 1,850,844.0 | 4 | 1,850,844.0 | 4 | 1,850,844.0 | 4 | 1,850,844.0 | 6 |
| | 151 | 2,056,309.6 | 27 | 2,056,309.6 | 28 | 2,056,309.6 | 30 | 2,056,309.6 | 34 | 2,056,309.6 | 33 | 2,056,309.6 | 31 |
| brd14051-c12-w90-3000-4000 | 51 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 | 1,227,396.1 | 0 |
| | 61 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 | 1,131,544.6 | 0 |
| | 71 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 | 1,331,512.0 | 1 |
| | 81 | 1,438,543.2 | 1 | 1,438,543.2 | 1 | 1,438,543.2 | 1 | 1,438,543.2 | 1 | 1,438,529.0 | 1 | 1,438,529.0 | 1 |
| | 91 | 1,842,416.9 | 1 | 1,842,416.9 | 1 | 1,842,416.9 | 1 | 1,842,416.9 | 1 | 1,842,360.1 | 1 | 1,842,360.1 | 1 |
| | 101 | 1,753,149.5 | 1 | 1,753,149.5 | 1 | 1,753,149.5 | 1 | 1,753,149.5 | 1 | 1,753,149.5 | 1 | 1,753,149.5 | 1 |
| | 111 | 1,543,281.4 | 4 | 1,543,281.4 | 4 | 1,543,281.4 | 4 | 1,543,281.4 | 4 | 1,543,281.4 | 4 | 1,543,281.4 | 6 |
| | 121 | 2,057,713.6 | 42 | 2,057,713.6 | 43 | 2,057,713.6 | 45 | 2,057,713.6 | 44 | 2,057,713.6 | 47 | 2,057,713.6 | 95 |
| | 131 | 2,166,795.2 | 4 | 2,166,795.2 | 4 | 2,166,795.2 | 5 | 2,166,795.2 | 4 | 2,166,795.2 | 4 | 2,166,795.2 | 5 |
| | 141 | 2,256,488.7 | 44 | 2,256,488.7 | 45 | 2,256,488.7 | 48 | 2,256,488.7 | 51 | 2,256,488.7 | 51 | 2,256,488.7 | 39 |
| | 151 | 1,959,127.3 | 321 | 1,959,127.3 | 330 | 1,959,127.3 | 342 | 1,959,127.3 | 324 | 1,959,127.3 | 644 | 1,959,117.7 | 1532 |
| brd14051-c12-w120-3000-4000 | 51 | 1,124,620.7 | 0 | 1,124,620.7 | 0 | 1,124,620.7 | 0 | 1,124,620.7 | 0 | 1,124,620.7 | 0 | 1,124,620.7 | 0 |
| | 61 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 | 1,131,676.1 | 0 |
| | 71 | 1,234,087.8 | 1 | 1,234,087.8 | 1 | 1,234,087.8 | 1 | 1,234,087.8 | 1 | 1,234,087.8 | 1 | 1,234,087.8 | 1 |
| | 81 | 1,335,834.4 | 2 | 1,335,834.4 | 2 | 1,335,834.4 | 2 | 1,335,834.4 | 2 | 1,335,834.4 | 2 | 1,335,834.4 | 2 |
| | 91 | 1,542,670.1 | 1 | 1,542,670.1 | 1 | 1,542,670.1 | 1 | 1,446,449.9 | 1 | 1,446,449.9 | 1 | 1,446,373.0 | 1 |
| | 101 | 1,849,748.5 | 2 | 1,849,748.5 | 2 | 1,849,748.5 | 3 | 1,849,748.5 | 2 | 1,849,748.5 | 3 | 1,849,748.5 | 3 |
| | 111 | 1,540,459.3 | 79 | 1,540,459.3 | 80 | 1,540,459.3 | 83 | 1,540,459.3 | 36 | 1,540,459.3 | 14 | 1,540,459.3 | 154 |
| | 121 | 1,752,085.8 | 12 | 1,752,085.8 | 12 | 1,752,085.8 | 12 | 1,752,085.8 | 12 | 1,752,085.8 | 13 | 1,752,085.8 | 11 |
| | 131 | 1,958,494.6 | 17 | 1,958,494.6 | 17 | 1,958,494.6 | 18 | 1,958,494.6 | 18 | 1,958,494.6 | 18 | 1,958,494.6 | 33 |
| | 141 | 1,955,907.9 | 251 | 1,955,907.9 | 257 | 1,955,907.9 | 275 | 1,955,907.9 | 189 | 1,955,907.9 | 242 | 1,955,907.9 | 317 |
| | 151 | – | – | – | – | – | – | – | – | 1,953,521.7 | 3553 | – | – |
| d18512-c12-w45-3000-4000 | 51 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 | 1,334,830.1 | 0 |
| | 61 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 | 1,434,166.1 | 0 |
| | 71 | 1,435,207.5 | 2 | 1,435,207.5 | 2 | 1,435,207.5 | 2 | 1,435,207.5 | 2 | 1,435,207.5 | 2 | 1,435,207.5 | 2 |
| | 81 | 1,335,807.3 | 0 | 1,335,807.3 | 0 | 1,335,807.3 | 0 | 1,335,807.3 | 0 | 1,335,807.3 | 0 | 1,335,807.3 | 0 |
| | 91 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 101 | 1,747,323.1 | 1 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 | 1,747,323.1 | 2 |
| | 111 | 2,057,507.9 | 3 | 2,057,507.9 | 3 | 2,057,507.9 | 3 | 2,057,507.9 | 3 | 2,057,507.9 | 3 | 2,057,507.9 | 7 |
| | 121 | 2,467,276.4 | 1 | 2,467,276.4 | 1 | 2,467,276.4 | 1 | 2,467,276.4 | 1 | 2,467,276.4 | 1 | 2,467,276.4 | 1 |
| | 131 | 2,364,026.2 | 67 | 2,364,026.2 | 67 | 2,364,026.2 | 79 | 2,364,026.2 | 79 | 2,364,026.2 | 80 | 2,364,026.2 | 129 |
| | 141 | 2,470,199.4 | 2 | 2,470,199.4 | 3 | 2,470,199.4 | 3 | 2,470,199.4 | 3 | 2,470,199.4 | 3 | 2,470,199.4 | 4 |
| | 151 | 2,365,106.1 | 4 | 2,365,106.1 | 4 | 2,365,106.1 | 4 | 2,365,106.1 | 4 | 2,365,106.1 | 4 | 2,365,106.1 | 5 |

*Continued on next page*

Table 18 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| d18512-c12-w60-3000-4000 | 51 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 | 1,234,237.1 | 0 |
| | 61 | 1,129,637.7 | 52 | 1,129,637.7 | 52 | 1,129,637.7 | 51 | 1,129,637.7 | 52 | 1,129,637.7 | 53 | 1,129,637.7 | 56 |
| | 71 | 1,332,573.3 | 0 | 1,332,573.3 | 0 | 1,332,573.3 | 0 | 1,332,573.3 | 0 | 1,332,573.3 | 0 | 1,332,573.3 | 0 |
| | 81 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 | 1,443,167.3 | 1 |
| | 91 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 | 1,746,488.7 | 1 |
| | 101 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 | 1,950,489.9 | 3 |
| | 111 | 2,161,004.7 | 4 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 5 | 2,161,004.7 | 6 |
| | 121 | 2,369,463.5 | 2 | 2,369,463.5 | 2 | 2,369,463.5 | 2 | 2,369,463.5 | 2 | 2,369,463.5 | 2 | 2,369,463.5 | 3 |
| | 131 | 2,163,246.2 | 4 | 2,163,246.2 | 4 | 2,163,246.2 | 4 | 2,163,246.2 | 5 | 2,163,246.2 | 5 | 2,163,246.2 | 7 |
| | 141 | 2,058,800.8 | 641 | 2,058,800.8 | 702 | 2,058,800.8 | 370 | 2,058,800.8 | 663 | 2,058,771.9 | 890 | 2,058,771.9 | 1448 |
| | 151 | 2,571,005.1 | 44 | 2,571,005.1 | 45 | 2,571,005.1 | 45 | 2,571,005.1 | 46 | 2,571,005.1 | 47 | 2,571,005.1 | 73 |
| d18512-c12-w75-3000-4000 | 51 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 | 1,129,919.7 | 0 |
| | 61 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 | 1,131,833.1 | 1 |
| | 71 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 | 1,435,031.2 | 0 |
| | 81 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 | 1,741,332.4 | 0 |
| | 91 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 1 | 1,537,342.2 | 2 |
| | 101 | 1,643,606.6 | 78 | 1,643,606.6 | 82 | 1,643,606.6 | 77 | 1,643,606.6 | 80 | 1,643,606.6 | 119 | 1,643,606.6 | 153 |
| | 111 | 1,854,577.6 | 9 | 1,854,577.6 | 10 | 1,854,577.6 | 10 | 1,854,577.6 | 13 | 1,854,577.6 | 5 | 1,854,577.6 | 6 |
| | 121 | 2,162,914.8 | 2 | 2,162,914.8 | 1 | 2,162,914.8 | 2 | 2,162,914.8 | 2 | 2,162,914.8 | 1 | 2,162,914.8 | 1 |
| | 131 | 2,156,813.5 | 5 | 2,156,813.5 | 5 | 2,156,813.5 | 5 | 2,156,813.5 | 5 | 2,156,813.5 | 5 | 2,156,813.5 | 6 |
| | 141 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 4 | 2,161,955.3 | 6 |
| | 151 | 2,164,095.5 | 75 | 2,164,095.5 | 76 | 2,164,095.5 | 78 | 2,164,095.5 | 104 | 2,164,095.5 | 82 | 2,164,095.5 | 141 |
| d18512-c12-w90-3000-4000 | 51 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 | 1,026,880.0 | 0 |
| | 61 | 1,128,692.0 | 0 | 1,128,692.0 | 1 | 1,128,692.0 | 0 | 1,128,692.0 | 1 | 1,128,692.0 | 0 | 1,128,692.0 | 1 |
| | 71 | 1,230,829.6 | 1 | 1,230,829.6 | 1 | 1,230,829.6 | 1 | 1,230,829.6 | 1 | 1,230,829.6 | 1 | 1,230,829.6 | 2 |
| | 81 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 | 1,438,248.6 | 1 |
| | 91 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 | 1,844,280.8 | 1 |
| | 101 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 1 | 1,643,364.4 | 2 |
| | 111 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 1 | 1,951,296.3 | 2 |
| | 121 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 3 | 2,059,222.6 | 4 |
| | 131 | 1,955,525.1 | 6 | 1,955,525.1 | 6 | 1,955,525.1 | 6 | 1,955,525.1 | 6 | 1,955,525.1 | 6 | 1,955,249.1 | 4 |
| | 141 | 1,956,176.6 | 24 | 1,956,176.6 | 24 | 1,956,176.6 | 16 | 1,956,176.6 | 25 | 1,956,176.6 | 27 | 1,956,059.7 | 25 |
| | 151 | 2,467,900.5 | 26 | 2,467,900.5 | 27 | 2,467,900.5 | 36 | 2,467,900.5 | 29 | 2,467,826.4 | 35 | 2,467,713.2 | 56 |
| d18512-c12-w120-3000-4000 | 51 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 | 1,130,584.3 | 0 |
| | 61 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 | 1,131,742.3 | 1 |
| | 71 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 | 1,229,060.7 | 1 |
| | 81 | 1,233,180.7 | 3 | 1,233,180.7 | 3 | 1,233,180.7 | 3 | 1,233,180.7 | 3 | 1,233,180.7 | 3 | 1,233,180.7 | 4 |
| | 91 | 1,541,742.4 | 132 | 1,541,742.4 | 133 | 1,541,742.4 | 132 | 1,541,742.4 | 133 | 1,541,742.4 | 135 | 1,541,742.4 | 150 |
| | 101 | 1,545,265.4 | 1 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 2 | 1,545,265.4 | 2 |
| | 111 | 1,751,009.7 | 23 | 1,751,009.7 | 25 | 1,751,009.7 | 24 | 1,751,009.7 | 21 | 1,751,009.7 | 22 | 1,750,090.2 | 3 |
| | 121 | 1,961,979.0 | 2 | 1,961,979.0 | 2 | 1,961,979.0 | 2 | 1,961,979.0 | 2 | 1,961,979.0 | 2 | 1,961,979.0 | 2 |
| | 131 | – | – | – | – | 1,749,742.0 | 2063 | – | – | 1,749,742.0 | 2684 | – | – |
| | 141 | 1,955,995.1 | 2513 | 1,955,995.1 | 2590 | 1,955,995.1 | 3032 | – | – | – | – | – | – |
| | 151 | 2,062,421.3 | 672 | 2,062,421.3 | 655 | 2,062,421.3 | 1356 | 2,062,421.3 | 299 | 2,062,421.3 | 326 | 2,061,493.4 | 127 |
| fn14461-c12-w45-3000-4000 | 51 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 | 714,979.7 | 0 |
| | 61 | 1,219,172.1 | 1 | 1,219,172.1 | 1 | 1,219,172.1 | 1 | 1,219,172.1 | 1 | 1,219,172.1 | 1 | 1,219,172.1 | 1 |
| | 71 | 917,883.2 | 4 | 917,883.2 | 4 | 917,883.2 | 4 | 917,883.2 | 4 | 917,883.2 | 4 | 917,883.2 | 5 |
| | 81 | 921,221.2 | 3 | 921,221.2 | 3 | 921,221.2 | 3 | 921,221.2 | 3 | 921,221.2 | 3 | 921,221.2 | 4 |
| | 91 | 1,021,300.0 | 5 | 1,021,300.0 | 5 | 1,021,300.0 | 5 | 1,021,291.7 | 5 | 1,021,291.7 | 5 | 1,021,291.7 | 9 |
| | 101 | 1,228,196.3 | 3 | 1,228,196.3 | 3 | 1,228,196.3 | 3 | 1,228,196.3 | 3 | 1,228,196.3 | 3 | 1,228,196.3 | 5 |
| | 111 | 1,329,326.8 | 3 | 1,329,326.8 | 3 | 1,329,326.8 | 3 | 1,329,326.8 | 3 | 1,329,326.8 | 4 | 1,329,326.8 | 4 |
| | 121 | 1,432,493.6 | 9 | 1,432,493.6 | 10 | 1,432,493.6 | 10 | 1,432,493.6 | 10 | 1,432,493.6 | 11 | 1,432,493.6 | 16 |
| | 131 | 1,638,638.4 | 226 | 1,638,638.4 | 234 | 1,638,638.4 | 239 | 1,638,638.4 | 234 | 1,638,638.4 | 233 | 1,638,638.4 | 256 |
| | 141 | 1,740,636.5 | 61 | 1,740,636.5 | 79 | 1,740,636.5 | 81 | 1,740,636.5 | 74 | 1,740,636.5 | 88 | 1,740,636.5 | 123 |
| | 151 | 1,638,897.4 | 62 | 1,638,897.4 | 63 | 1,638,897.4 | 64 | 1,638,897.4 | 68 | 1,638,897.4 | 79 | 1,638,897.4 | 136 |

*Continued on next page*

Table 18 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| fnl4461-c12-w60-3000-4000 | 51 | 715,291.2 | 1 | 715,291.2 | 1 | 715,291.2 | 1 | 715,291.2 | 1 | 715,291.2 | 1 | 715,291.2 | 1 |
| | 61 | 816,053.3 | 1 | 816,053.3 | 1 | 816,053.3 | 1 | 816,053.3 | 1 | 816,053.3 | 1 | 816,053.3 | 1 |
| | 71 | 819,134.2 | 5 | 819,134.2 | 5 | 819,134.2 | 6 | 819,134.2 | 5 | 819,134.2 | 6 | 819,134.2 | 13 |
| | 81 | 922,482.0 | 10 | 922,482.0 | 11 | 922,482.0 | 11 | 922,482.0 | 7 | 922,482.0 | 8 | 922,482.0 | 16 |
| | 91 | 922,694.8 | 3 | 922,694.8 | 4 | 922,694.8 | 4 | 922,694.8 | 4 | 922,694.8 | 4 | 922,694.8 | 5 |
| | 101 | 1,126,184.9 | 11 | 1,126,184.9 | 12 | 1,126,184.9 | 13 | 1,126,184.9 | 12 | 1,126,184.9 | 25 | 1,126,101.8 | 28 |
| | 111 | 1,329,730.3 | 28 | 1,329,730.3 | 29 | 1,329,730.3 | 31 | 1,329,730.3 | 31 | 1,329,730.3 | 21 | 1,329,730.3 | 39 |
| | 121 | 1,329,831.6 | 100 | 1,329,831.6 | 103 | 1,329,831.6 | 113 | 1,329,831.6 | 79 | 1,329,831.6 | 136 | 1,329,831.6 | 197 |
| | 131 | 1,538,527.4 | 171 | 1,538,527.4 | 176 | 1,538,527.4 | 190 | 1,538,527.4 | 206 | 1,538,520.0 | 299 | 1,538,520.0 | 269 |
| | 141 | 1,536,071.3 | 155 | 1,536,071.3 | 158 | 1,536,071.3 | 173 | 1,536,071.3 | 158 | 1,536,071.3 | 170 | 1,536,071.3 | 263 |
| | 151 | 1,539,332.5 | 2182 | 1,539,332.5 | 2234 | 1,539,332.5 | 2756 | 1,539,332.5 | 3103 | 1,539,332.5 | 3286 | – | – |
| fnl4461-c12-w75-3000-4000 | 51 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 0 | 714,577.2 | 1 |
| | 61 | 815,889.1 | 1 | 815,889.1 | 1 | 815,889.1 | 1 | 815,889.1 | 1 | 815,889.1 | 1 | 815,889.1 | 2 |
| | 71 | 819,042.5 | 2 | 819,042.5 | 2 | 819,042.5 | 2 | 819,042.5 | 2 | 819,042.5 | 2 | 819,042.5 | 2 |
| | 81 | 919,458.0 | 4 | 919,458.0 | 4 | 919,458.0 | 4 | 919,458.0 | 4 | 919,458.0 | 4 | 919,458.0 | 5 |
| | 91 | 1,023,204.0 | 4 | 1,023,204.0 | 4 | 1,023,204.0 | 4 | 1,023,204.0 | 5 | 1,023,204.0 | 5 | 1,023,204.0 | 8 |
| | 101 | 1,225,494.8 | 38 | 1,225,494.8 | 39 | 1,225,494.8 | 39 | 1,225,494.8 | 40 | 1,225,494.8 | 41 | 1,225,494.8 | 52 |
| | 111 | 1,130,774.3 | 39 | 1,130,774.3 | 40 | 1,130,774.3 | 39 | 1,130,774.3 | 39 | 1,130,774.3 | 41 | 1,130,774.3 | 53 |
| | 121 | – | – | – | – | – | – | – | – | – | – | 1,431,090.2 | 1986 |
| | 131 | 1,434,904.6 | 457 | 1,434,904.6 | 488 | 1,434,904.6 | 496 | 1,434,904.6 | 399 | 1,434,904.6 | 501 | 1,434,904.6 | 645 |
| | 141 | 1,637,226.1 | 697 | 1,637,226.1 | 723 | 1,637,226.1 | 738 | 1,637,226.1 | 703 | 1,637,226.1 | 685 | 1,637,226.1 | 1297 |
| | 151 | 1,540,048.0 | 2580 | 1,540,048.0 | 2691 | 1,540,048.0 | 2776 | – | – | – | – | – | – |
| fnl4461-c12-w90-3000-4000 | 51 | 714,328.0 | 0 | 714,328.0 | 0 | 714,328.0 | 0 | 714,328.0 | 0 | 714,328.0 | 0 | 714,229.4 | 0 |
| | 61 | 817,382.7 | 565 | 817,382.7 | 579 | 817,382.7 | 582 | 817,382.7 | 578 | 817,382.7 | 620 | 817,382.7 | 368 |
| | 71 | 815,993.3 | 4 | 815,993.3 | 4 | 815,993.3 | 5 | 815,993.3 | 5 | 815,993.3 | 8 | 815,993.3 | 13 |
| | 81 | 921,498.3 | 4 | 921,498.3 | 4 | 921,498.3 | 5 | 921,498.3 | 5 | 921,498.3 | 5 | 921,498.3 | 6 |
| | 91 | 1,022,957.9 | 96 | 1,022,957.9 | 98 | 1,022,957.9 | 41 | 1,022,957.9 | 103 | 1,022,950.6 | 75 | 1,022,950.6 | 160 |
| | 101 | 1,126,432.3 | 27 | 1,126,432.3 | 27 | 1,126,432.3 | 24 | 1,126,432.3 | 30 | 1,126,432.3 | 32 | 1,126,405.4 | 45 |
| | 111 | 1,227,614.4 | 120 | 1,227,614.4 | 123 | 1,227,614.4 | 129 | 1,227,614.4 | 166 | 1,227,614.4 | 154 | 1,227,614.4 | 254 |
| | 121 | 1,332,312.4 | 169 | 1,332,312.4 | 177 | 1,332,312.4 | 186 | 1,332,312.4 | 191 | 1,332,312.4 | 232 | 1,332,312.4 | 2165 |
| | 131 | 1,231,165.4 | 745 | 1,231,165.4 | 740 | 1,231,138.2 | 1115 | 1,231,165.4 | 1064 | 1,231,165.4 | 1103 | 1,231,095.8 | 3315 |
| | 141 | 1,337,991.3 | 128 | 1,337,991.3 | 132 | 1,337,991.3 | 184 | 1,337,991.3 | 135 | 1,337,991.3 | 194 | 1,337,991.3 | 330 |
| | 151 | – | – | – | – | – | – | – | – | 1,537,697.4 | 2308 | 1,537,697.4 | 3500 |
| fnl4461-c12-w120-3000-4000 | 51 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 2 | 610,649.0 | 3 |
| | 61 | 714,395.9 | 10 | 714,395.9 | 10 | 714,395.9 | 14 | 714,395.9 | 11 | 714,395.9 | 13 | 714,395.9 | 27 |
| | 71 | 715,135.7 | 6 | 715,135.7 | 6 | 715,135.7 | 6 | 715,135.7 | 5 | 715,135.7 | 6 | 715,135.7 | 11 |
| | 81 | 819,701.2 | 93 | 819,701.2 | 117 | 819,701.2 | 69 | 819,701.2 | 140 | 819,701.2 | 168 | 819,701.2 | 310 |
| | 91 | 820,805.8 | 3341 | 820,302.2 | 2063 | 820,302.2 | 3097 | 820,805.8 | 3409 | 820,302.2 | 3342 | 819,726.2 | 1435 |
| | 101 | 1,125,601.7 | 2590 | 1,125,601.7 | 2436 | – | – | – | – | 1,027,752.1 | 25 | 1,027,752.1 | 56 |
| | 111 | 1,026,867.3 | 3435 | – | – | – | – | – | – | – | – | – | – |
| | 121 | 1,130,735.3 | 178 | 1,130,735.3 | 190 | 1,130,735.3 | 211 | 1,130,735.3 | 222 | 1,130,735.3 | 282 | 1,130,735.3 | 549 |
| | 131 | 1,131,165.3 | 1004 | 1,131,165.3 | 979 | 1,131,165.3 | 1187 | 1,131,165.3 | 2012 | 1,131,141.8 | 3545 | – | – |
| | 141 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 151 | – | – | – | – | – | – | – | – | – | – | – | – |
| nrw1379-c12-w45-3000-4000 | 51 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 | 815,723.9 | 1 |
| | 61 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 | 917,900.0 | 1 |
| | 71 | 1,121,131.5 | 1 | 1,121,131.5 | 1 | 1,121,131.5 | 0 | 1,121,131.5 | 0 | 1,121,131.5 | 0 | 1,121,131.5 | 1 |
| | 81 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 | 1,231,183.1 | 1 |
| | 91 | 1,330,075.1 | 1 | 1,330,075.1 | 1 | 1,330,075.1 | 1 | 1,330,075.1 | 1 | 1,330,075.1 | 1 | 1,330,075.1 | 1 |
| | 101 | 1,329,356.9 | 4 | 1,329,356.9 | 4 | 1,329,356.9 | 4 | 1,329,356.9 | 4 | 1,329,356.9 | 4 | 1,329,356.9 | 5 |
| | 111 | 1,533,384.5 | 4 | 1,533,384.5 | 4 | 1,533,384.5 | 4 | 1,533,384.5 | 4 | 1,533,384.5 | 4 | 1,533,384.5 | 5 |
| | 121 | 1,539,556.5 | 25 | 1,539,556.5 | 25 | 1,539,556.5 | 24 | 1,539,556.5 | 28 | 1,539,556.5 | 29 | 1,539,556.5 | 35 |
| | 131 | 1,842,084.3 | 3 | 1,842,084.3 | 3 | 1,842,084.3 | 3 | 1,842,084.3 | 3 | 1,842,084.3 | 3 | 1,842,084.3 | 4 |
| | 141 | 1,945,085.4 | 4 | 1,945,085.4 | 4 | 1,945,085.4 | 4 | 1,945,085.4 | 4 | 1,945,085.4 | 4 | 1,945,085.4 | 5 |
| | 151 | 2,050,602.4 | 17 | 2,050,602.4 | 17 | 2,050,602.4 | 17 | 2,050,602.4 | 18 | 2,050,602.4 | 18 | 2,050,602.4 | 21 |

*Continued on next page*

Table 18 – *Continued from previous page*

| Inst. | Nodes | Policy 1 | | Policy 2 | | Policy 3 | | Policy 4 | | Policy 5 | | Policy 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. | $z^*$ | Sec. |
| nrw1379-c12-w60-3000-4000 | 51 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 | 714,314.3 | 1 |
| | 61 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 | 818,782.7 | 1 |
| | 71 | 1,122,155.8 | 2 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 1 | 1,122,155.8 | 2 |
| | 81 | 1,226,778.6 | 1 | 1,226,778.6 | 1 | 1,226,778.6 | 1 | 1,226,778.6 | 1 | 1,226,778.6 | 1 | 1,226,778.6 | 1 |
| | 91 | 1,228,397.4 | 14 | 1,228,397.4 | 14 | 1,228,397.4 | 12 | 1,228,397.4 | 14 | 1,228,397.4 | 14 | 1,228,397.4 | 17 |
| | 101 | 1,429,736.1 | 3 | 1,429,736.1 | 3 | 1,429,736.1 | 3 | 1,429,736.1 | 3 | 1,429,736.1 | 3 | 1,429,736.1 | 4 |
| | 111 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 4 | 1,634,584.2 | 5 |
| | 121 | 1,539,615.2 | 91 | 1,539,615.2 | 91 | 1,539,615.2 | 92 | 1,539,615.2 | 106 | 1,539,615.2 | 109 | 1,539,615.2 | 81 |
| | 131 | 1,637,882.3 | 68 | 1,637,882.3 | 68 | 1,637,882.3 | 69 | 1,637,882.3 | 69 | 1,637,882.3 | 36 | 1,637,882.3 | 81 |
| | 141 | 1,947,026.3 | 128 | 1,947,026.3 | 130 | 1,947,026.3 | 161 | 1,947,026.3 | 151 | 1,947,026.3 | 141 | 1,947,026.3 | 344 |
| | 151 | 1,745,045.8 | 864 | 1,745,045.8 | 889 | 1,745,045.8 | 891 | 1,745,045.8 | 872 | 1,745,045.8 | 774 | 1,744,952.2 | 1542 |
| nrw1379-c12-w75-3000-4000 | 51 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 | 918,882.3 | 0 |
| | 61 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 | 1,019,513.3 | 1 |
| | 71 | 1,020,804.5 | 1 | 1,020,804.5 | 1 | 1,020,804.5 | 1 | 1,020,804.5 | 1 | 1,020,804.5 | 1 | 1,020,804.5 | 2 |
| | 81 | 1,124,893.0 | 6 | 1,124,893.0 | 6 | 1,124,893.0 | 6 | 1,124,893.0 | 6 | 1,124,893.0 | 6 | 1,124,893.0 | 7 |
| | 91 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 3 | 1,229,438.5 | 4 |
| | 101 | 1,128,092.0 | 8 | 1,128,092.0 | 8 | 1,128,092.0 | 8 | 1,128,092.0 | 8 | 1,128,092.0 | 18 | 1,128,092.0 | 14 |
| | 111 | 1,433,313.4 | 2 | 1,433,313.4 | 2 | 1,433,313.4 | 3 | 1,433,313.4 | 3 | 1,433,313.4 | 3 | 1,433,230.4 | 4 |
| | 121 | 1,529,916.9 | 26 | 1,529,916.9 | 21 | 1,529,916.9 | 20 | 1,529,916.9 | 26 | 1,529,916.9 | 45 | 1,529,774.3 | 97 |
| | 131 | 1,539,235.4 | 131 | 1,539,235.4 | 136 | 1,539,235.4 | 154 | 1,539,235.4 | 108 | 1,539,235.4 | 133 | 1,539,235.4 | 171 |
| | 141 | 1,644,863.3 | 130 | 1,644,863.3 | 132 | 1,644,863.3 | 106 | 1,644,863.3 | 80 | 1,644,863.3 | 83 | 1,643,807.4 | 177 |
| | 151 | 1,742,678.5 | 554 | 1,742,678.5 | 571 | 1,742,678.5 | 388 | 1,742,678.5 | 271 | 1,742,678.5 | 803 | 1,742,524.5 | 171 |
| nrw1379-c12-w90-3000-4000 | 51 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 | 815,844.7 | 1 |
| | 61 | 1,222,461.1 | 0 | 1,222,461.1 | 0 | 1,222,461.1 | 0 | 1,222,461.1 | 0 | 1,222,461.1 | 0 | 1,222,461.1 | 1 |
| | 71 | 1,021,147.9 | 3 | 1,021,147.9 | 3 | 1,021,147.9 | 3 | 1,021,147.9 | 3 | 1,021,147.9 | 4 | 1,021,147.9 | 8 |
| | 81 | 1,023,927.9 | 9 | 1,023,927.9 | 9 | 1,023,927.9 | 11 | 1,023,927.9 | 12 | 1,023,927.9 | 15 | 1,023,927.9 | 37 |
| | 91 | 1,323,594.5 | 12 | 1,323,594.5 | 12 | 1,323,594.5 | 14 | 1,323,594.5 | 13 | 1,323,594.5 | 14 | 1,323,594.5 | 23 |
| | 101 | 1,427,969.3 | 10 | 1,427,969.3 | 11 | 1,427,969.3 | 10 | 1,427,969.3 | 11 | 1,427,969.3 | 11 | 1,427,969.3 | 17 |
| | 111 | 1,230,435.8 | 3 | 1,230,435.8 | 3 | 1,230,435.8 | 4 | 1,230,435.8 | 4 | 1,230,435.8 | 5 | 1,230,435.8 | 7 |
| | 121 | 1,333,888.5 | 7 | 1,333,888.5 | 7 | 1,333,888.5 | 7 | 1,333,888.5 | 7 | 1,333,888.5 | 7 | 1,333,888.5 | 9 |
| | 131 | 1,334,256.4 | 69 | 1,334,256.4 | 72 | 1,334,256.4 | 75 | 1,334,256.4 | 77 | 1,334,256.4 | 101 | 1,334,256.4 | 262 |
| | 141 | – | – | – | – | 1,639,817.1 | 31 | – | – | – | – | – | – |
| | 151 | 1,638,622.6 | 435 | 1,638,622.6 | 452 | – | – | 1,638,622.6 | 475 | 1,638,622.6 | 532 | 1,638,622.6 | 822 |
| nrw1379-c12-w120-3000-4000 | 51 | 615,497.9 | 1 | 615,497.9 | 1 | - | 0 | 615,497.9 | 1 | 615,497.9 | 1 | 615,497.9 | 4 |
| | 61 | 818,667.7 | 1 | 818,667.7 | 1 | - | 0 | 818,667.7 | 1 | 818,667.7 | 1 | 818,667.7 | 1 |
| | 71 | 1,023,232.7 | 4 | 1,023,232.7 | 4 | - | 0 | 1,023,232.7 | 4 | 1,023,232.7 | 5 | 1,023,232.7 | 7 |
| | 81 | 924,039.7 | 4 | 924,039.7 | 5 | - | 0 | 923,992.7 | 5 | 923,992.7 | 6 | 923,992.7 | 9 |
| | 91 | 1,024,221.6 | 35 | 1,024,221.6 | 36 | - | 0 | 1,024,221.6 | 36 | 1,024,221.6 | 21 | 1,023,317.4 | 7 |
| | 101 | 1,230,297.1 | 105 | 1,230,297.1 | 105 | - | 0 | 1,230,297.1 | 106 | 1,230,297.1 | 169 | 1,230,297.1 | 147 |
| | 111 | 1,231,170.4 | 28 | 1,231,170.4 | 29 | - | 0 | 1,231,170.4 | 22 | 1,231,170.4 | 40 | 1,231,170.4 | 110 |
| | 121 | 1,332,009.4 | 1010 | 1,332,009.4 | 1032 | - | 0 | 1,332,009.4 | 1046 | 1,332,009.4 | 660 | 1,332,009.4 | 1044 |
| | 131 | – | – | – | – | - | 0 | – | – | – | – | – | – |
| | 141 | 1,639,817.1 | 29 | 1,639,817.1 | 30 | - | 0 | 1,639,817.1 | 28 | 1,639,817.1 | 35 | 1,639,784.4 | 44 |
| | 151 | – | – | – | – | - | 0 | – | – | 1,537,645.0 | 2000 | 1,441,099.2 | 324 |
| Solved | | | 280 | | 278 | | 280 | | 276 | | 281 | | 277 |
| ∅ Time | | | 173.2 | | 153.5 | | 159.4 | | 150.7 | | 204.6 | | 187.3 |

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