Scientific Support for the Decision Making in the Security Sector

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Planning of Security Sector Capabilities for Protection of Maritime Sovereignty

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ABSTRACT: Capability-based planning (CBP) is proving its efficiency in managing armed forces. This approach has a considerable potential for implementation in managing the development of the security sector. This paper briefly presents a planning framework and examines a particular application in the area of maritime sovereignty. The approach is based on centralized planning of the capabilities for protection of maritime sovereignty and agency-based development of these capabilities. We propose a process that links objectives, ambitions, planning scenarios, tasks, required capabilities, and planning risks. The distribution of capabilities among security sector organizations accounts for their traditions, experience, and current roles, but focuses on cost effectiveness. In the final section of the paper we examine major decision support requirements to capability planning for maritime sovereignty.

KEYWORDS: capability-based planning, scenario-based capability-oriented planning, network-based operations, cost-effectiveness, security sector integration

Introduction

The dynamic changes of the economic, political, and military-strategic environment in the Black Sea region after the demise of the bi-polar world, the membership of Bulgaria in NATO and the forthcoming membership in the European Union brought the need for radical rethinking of the views on maritime sovereignty of our country. We have adopted a broader definition of maritime sovereignty, namely that the state retains the right to exercise control both in the territorial waters and the other parts of the Black Sea where it has internationally recognized rights.

With the increasing role of the sea and related economic and security interests, the protection of maritime sovereignty is becoming an important function of the state. Scientists and practitioners face the challenge to provide adequate conceptual and analytical support to the efforts of the state to protect its interests in the national sea spaces. A key task in this support is the

definition of the capabilities that the national security sector needs to develop and maintain in order to protect effectively the maritime sovereignty of the country.

This essay briefly outlines a methodology for a comprehensive capability-based planning and capability development in the security sector [1]. The main part of the essay presents the results in applying this approach to planning the capabilities for protection of maritime sovereignty. It concludes with a brief examination of the challenges facing Bulgaria's security sector in introducing a transparent decision-making process for developing the national capabilities for protection of maritime sovereignty.

Framework for Planning and Developing the Capabilities of the Security Sector

In planning the national capabilities for protection of maritime sovereignty, policy makers and planners need to define and to find a balance among four key components: objectives, strategy and respective distribution of roles among security and other organisations, means—or capabilities—to implement the strategy, and planning risks [2].
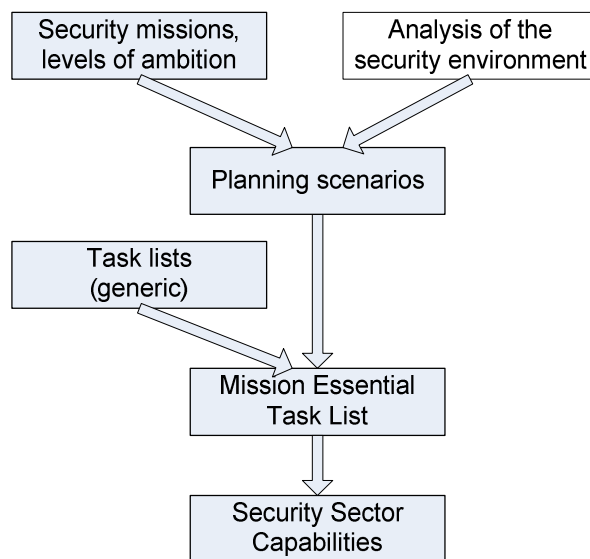
The term "capability" here is defined as

> *the capacity, provided by a set of resources and abilities, to achieve a measurable result in performing a task under specified conditions and to specific performance standards.*

Therefore, in addition to the four main components, a more detailed "top-down" part of the planning process requires to define a set of plausible conditions (usually in terms of "planning scenarios"), as well as the set of tasks to be performed in these conditions. Thus, a rigorous planning process links [3]:

- Objectives in the area of maritime sovereignty, including those to be possibly achieved through military means;
- National ambitions in terms of the protection of maritime sovereignty;
- Strategy for achieving the objectives;
- Roles of the institutions, engaged in protecting maritime sovereignty;
- Scenarios, describing plausible risks and threats to the national interests related to the national sea spaces;
- Tasks to be performed in neutralizing the plausible risks and threats (often extracted subset of structured catalogue of tasks, i.e., a Universal Task List, or UTL);

- Capabilities required to perform the tasks for protection of maritime sovereignty;
- Ways to provide these capabilities (coordination of the development of the variety of capability components within a selected capability model).

The main relationships among the major components of the planning process are presented graphically on Figure 1.

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┌─────────────────────┐        ┌─────────────────────┐
│ Security missions,  │        │   Analysis of the   │
│ levels of ambition  │        │ security environment│
└─────────────────────┘        └─────────────────────┘
              ↘                    ↙
            ┌─────────────────────────┐
            │    Planning scenarios   │
            └─────────────────────────┘
┌──────────────┐               │
│  Task lists  │               │
│  (generic)   │               │
└──────────────┘               │
              ↘                ↓
            ┌─────────────────────────┐
            │    Mission Essential    │
            │       Task List         │
            └─────────────────────────┘
                         │
                         ↓
            ┌─────────────────────────┐
            │    Security Sector      │
            │     Capabilities        │
            └─────────────────────────┘
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Figure 1: Conceptual approach to defining the capabilities of the security sector

A more elaborated framework accounts also for the various horizons of the planning process, the possibility to act simultaneously for protection of maritime sovereignty across a number of scenarios, the centralised nature of capability planning and decentralised budgeting and execution of plans and programs, the distribution of decision-making authority for planning, implementation, and oversight, as well as a number of feedback loops. Figure 2 presents this framework with the assumption, that a country applies program-based management of the resources for security or, equivalently, program-based development of the security sector organisations [4]. Bulgaria, among others, applies such approach, with a particularly strong experience in program-based defence resource management. Other countries, e.g. The United Kingdom, use instead longer term—two to four years—budgets.

Of particular interest in this framework is the distribution of requisite capabilities among security sector and other organisations. Traditions and existing legal arrangements often drive the assignment of missions and tasks

(and respectively – of capabilities) to organisations in the security sector. However, capabilities-based planning allows to permeate organisational boundaries and to seek higher levels of cost effectiveness. Thus, cost-benefit analysis is expected to become a powerful tool supporting decisions on distribution of capabilities necessary to protect maritime sovereignty [5].

**Application of the Security Sector Capabilities Planning Framework to Maritime Sovereignty**

This section of the essay presents main results from the application of the framework for planning and developing the capabilities of the national security sector to the protection of maritime sovereignty [6]. The focus is on the process of planning. We also present some initial ideas on the distribution of requisite capabilities among security sector organisations. The issues of designing capability development programs, implementation and monitoring will be examined in future works of the authors.

Formulation of the Policy for Protection of Maritime Sovereignty

At this stage, Bulgaria does not have 'official' conceptualisation of maritime sovereignty and a comprehensive policy for its protection. On the other hand, individual organisations in the national security sector have fairly detailed documents, regulating specific aspects of security and safety related to the sea. In the process of synchronising the national regulatory framework with EU requirements, in the last few years the number of documents and their coverage grew considerably.

The formulation of a policy for maritime sovereignty should start with a proper definition of the term. It includes definition of the objectives and the levels of ambition in protecting maritime sovereignty, indication of the resources to be provided, as well as some key management tools. The authors' view on these aspects of the policy for maritime sovereignty are summarized bellow.

Scope of 'maritime sovereignty.' The notion of maritime sovereignty of a nation is based on the understanding that, in protecting its interests, the state retains the right to exercise control both in the territorial waters and all other maritime areas where it has internationally recognized rights. In protecting these interests, as well as during their formulation, the state adheres to applicable international regulatory framework. It seeks to develop requisite capabilities, and to apply such capabilities if necessary, in international context. The main carrier of the requisite capabilities is the national security sector, in the broad understanding of the term [7].
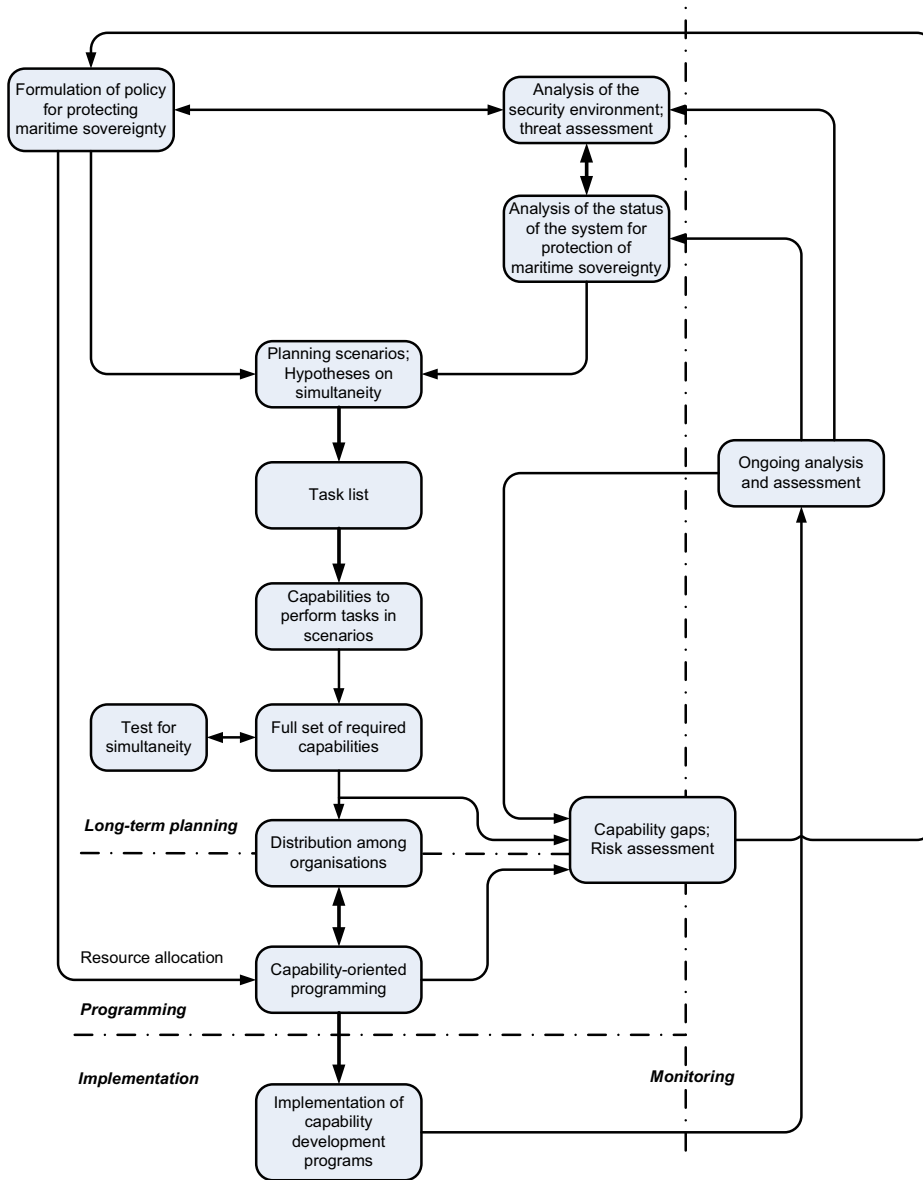
Figure 2: Planning the capabilities for protection of maritime sovereignty

Objectives of the policy for protection of maritime sovereignty. Levels of ambition. The next step was to formulate the objectives of the policy for protection of maritime sovereignty, which include the protection of all the aspects of the national interests, the enforcement of the provisions of international and national maritime law, the defence of the Black Sea coast, etc.

A number of official documents of the Republic of Bulgaria shed light on the country's goals in the area of maritime sovereignty. Among these are the *Law on Defence and Armed Forces*, the *Law on the Ministry of the Interior*, the *Law on the Sea Spaces, Internal Water Routes and Harbours*, the *Law on Crisis Management*, the *Military Doctrine*, the *Doctrine of the Navy*, the *Code of Commercial Shipping*, the Ordinances of the Executive Agencies "Maritime Administration" and "Harbour Administration," etc. Analysing these documents, we propose the following definitions of national objectives in protecting maritime sovereignty:

1. Protect the sovereignty and the territorial integrity of the country from seaside aggression, including neutralisation of terrorist activities in the territorial waters;

2. Protect the outer borders of the European Union in the Black Sea;

3. Prevent acts of violation of international and national law, related to the use of the national maritime space;

4. Guarantee security and safety of shipping in the territorial sea and the internal waterways;

5. Prevent casualties and minimise material losses as a result of emergencies and catastrophes of various nature in the national maritime spaces;

6. Preserve the ecological balance of the sea and safeguard its life resources;

7. Uphold peace and security in the region and enhance the international cooperation on key humanitarian and law enforcement issues.

So far, publicly available documents do not allow to extract clearly defined levels of ambition in terms of protection of maritime sovereignty. If we use as analogy force planning processes of defence establishments, the level of ambition of a country is defined in military terms as the number, scale and nature of operations that it should be able to conduct on its own or as part of coalition or alliance.

Likewise, national ambitions in maritime security can be defined through the number, scale and type of operations the national security sector should be able to conduct on its own or in international context. Certainly, such definition would go beyond the scope of national maritime spaces to account for international obligations in the war on terrorism, peacekeeping, search and rescue at sea, etc.

International context. Bulgaria acts in its national maritime spaces as an ally in NATO and, since January 1, 2007, a member of the European Union, and this

sets the primary international context. In addition, Bulgaria is active in the Organisation for Black Sea Economic Cooperation, the respective Parliamentary Assembly, BLACKSEAFOR, and a number of other multinational initiatives towards increasing security and safety in the area of the Black Sea.

Estimated resource levels. No public documents provide indication on future resource levels, dedicated to maritime security. The respective funds in the state budget are rather limited. At the same time, the European Union provides considerable budgets for strengthening its outer borders. The introduction of public-private partnerships and private finance initiatives also increase the amount of investments, related to maritime security.

Measures of Performance. Measures of effectiveness and performance may be defined using systems theory and assessing effects, costs, functionality, etc. Recently, another comprehensive approach, known as "balanced scorecard," attracted considerable attention for both commercial [8] and public, i.e., non-for-profit, enterprises [9].

Expected or planned changes in the regulatory framework. Given the integration of Bulgaria into the European Union and the increased international interest in the Black Sea region, the regulatory framework is undergoing rapid changes. These will be examined in detail in follow-up works of the authors.

Analysis of the Environment for Protection of Maritime Sovereignty

The next major step is the analysis of the environment for protection of maritime sovereignty. The analysis results in identification of the main risks and threats to the sea-related national interests of the Republic of Bulgaria. These are as follows (with no particular order of priority):

- Trafficking in human beings and illegal emigration by sea
- Trafficking in weapons and military technology, including WMD components, and dual-use technologies
- Trafficking in narcotics
- Smuggling
- Maritime terrorism
- Piracy
- Violation of the safety of shipping and other regulations
- Illegal or indiscriminate use of the bio-resources of the sea
- Maritime pollution

- Information security threats
- Incident on a vessel or aircraft endangering the life of the crew/passengers
- Geology-, hydro-geology-, or weather-induced contingency
- Armed aggression against the country or an ally.

Status of the System for Protecting Maritime Sovereignty

Next, we analysed the current state of the system for protection of maritime sovereignty. Particular attention was paid on the capabilities of the following institutions:

- Bulgarian Navy and Air Force
- Border Police
- Maritime and Port Administration Executive Agencies
- Other organisations.

Generally, capability levels are lower that needed, and considerable capability gaps still exist.

Planning Scenarios

The next major step was to define the planning scenarios and to formulate simultaneity hypotheses. The choice of scenarios is critical in the process of capability-based planning, since the scenarios provide an important link between policy objectives and required capabilities. These scenarios need to be sufficiently general to account for the variety of participating organisations and, at the same time, to encompass all types of their operations. The goal here is not to describe alternative variants in the use of forces, but to provide framework conditions for performing the tasks on protection of maritime sovereignty.

The selected scenarios are presented in the following table.

Scenario	Content
Scenario # 1	Armed aggression against the country, related to the national maritime spaces (NMS), or against an ally
Scenario # 2	Intentional violation of the safety of shipping and other legal requirements in the national maritime spaces
Scenario # 3	Terrorist or pirate attack on a vessel or harbour facility
Scenario # 4	Illegal trafficking in weapons, military and dual-use technologies, including WMD components, of drugs, and goods

Scenario	Content
Scenario # 5	Trafficking of people and illegal immigration through the sea
Scenario # 6	Illegal use of the bio-resources of the national maritime spaces
Scenario # 7	Pollution of the maritime environment (intentional or as a result of natural disasters or industrial incidents)
Scenario # 8	Incident on a ship or aircraft within the national SAR region, especially one endangering the life of passengers and crew
Scenario # 9	Natural disaster – strong earthquake or hurricane
Scenario # 10	Information incursion, e.g. cyber attack

A number of hypotheses for the simultaneous occurrence of these scenarios were formulated, and we picked twelve combinations (in the table bellow) as most illustrative in driving capability requirements.

Combination #	Scenarios	Short description
1	Scenario 2 & Scenario 3	Intentional violation of the safety of shipping and other legal requirements in the national maritime spaces & Terrorist or pirate attack on a vessel or harbour facility
2	Scenario 2 & Scenario 4	Intentional violation of the safety of shipping and other legal requirements in the national maritime spaces & Illegal trafficking in weapons, military and dual-use technologies, including WMD components, of drugs, and goods
3	Scenario 2 & Scenario 5	Intentional violation of the safety of shipping and other legal requirements in the national maritime spaces & Trafficking of people and illegal immigration through the sea
4	Scenario 2 & Scenario 6	Intentional violation of the safety of shipping and other legal requirements in the national maritime spaces & Illegal use of the bio-resources of the national maritime spaces
5	Scenario 2 & Scenario 8	Intentional violation of the safety of shipping and other legal requirements in the national maritime spaces & Incident on a ship within the national SAR region,
6	Scenario 3 & Scenario 4	Terrorist or pirate attack on a vessel or harbour facility & Illegal trafficking in weapons, military and dual-use technologies, including WMD components, of drugs, and goods

Combination #	Scenarios	Short description
7	Scenario 3 & Scenario 7	Terrorist or pirate attack on a vessel or harbour facility & Pollution of the maritime environment
8	Scenario 3 & Scenario 8	Terrorist or pirate attack on a vessel or harbour facility & Incident on a ship within the national SAR region,
9	Scenario 3 & Scenario 10	Terrorist or pirate attack on a vessel or harbour facility & Cyber attack
10	Scenario 5 & Scenario 8	Trafficking of people and illegal immigration through the sea & Incident on a ship within the national SAR region
11	Scenario 7 & Scenario 9	Pollution of the maritime environment & Natural disaster
12	Scenario 8 & Scenario 9	Incident on a ship or aircraft within the national SAR region & Natural disaster (hurricane)

The possibility for simultaneous occurrence of three or more events has not been examined so far.

Task List

The next step was to formulate a structured list of the tasks in the protection of maritime sovereignty. Two existing approaches to this were analysed:

- Developing 'universal task lists' (the approach used by the Armed Forces of the US, the United Kingdom, Canada, and a number of other countries) [10]

- The approach used by the Department of Homeland Security of the US [11].

At this stage, Bulgaria does not have an official document of this type. The only exception is a list proposed by researchers [12].

Required Capabilities for Protection of Maritime Sovereignty

With the tasks defined, we defined the capabilities to ensure the execution of each single task in every scenario. On this basis we created a comprehensive set of the required capabilities for protection of maritime sovereignty, structured in four "mission areas" and one general group as follows:

General (for each mission):
1. Management of the maritime sovereignty forces – managing force development

2. Coordination, Command and Control of the Maritime Sovereignty Forces
3. C2 – communications and information support
4. Logistics support
5. Force deployment

Prevent:

1. Surveillance and detection of surface, sub-surface and aerial targets
2. Fusion and analysis of intelligence information
3. Exchange of information and cooperation
4. Target identification, dissemination and reporting
5. Inspection of vessels and their cargo
6. Control the traffic of vessels, cargo, passengers and personnel in harbour areas
7. Investigate and detain intruders, including terrorists, in national maritime spaces
8. Detect chemical, biological, radiation, nuclear, and ecological threats and effects
9. Detect information incursion

Protect:

10. Defend and protect forces and areas
11. Protect sites and critical infrastructure in the coastal area
12. Detect and destroy mines
13. Detect and seize illegal fishing gear
14. Protect databases and computer networks

Respond:

15. Track detected surface and subsurface vessels and aircraft
16. Destroy surface and subsurface vessels and aircraft
17. Set defensive mine barrages
18. React to a terrorist attack against a vessel and a harbour facility
19. Rescue hostages
20. Search and rescue at sea
21. Fight fires at sea
22. Evacuate and provide pre-hospital care

Recover:

23. Limit a pollution source/spill
24. Decontamination of sea areas
25. Assist a ship/aircraft in emergency
26. Provide humanitarian assistance

Distributions of Required Capabilities among Organisations

The next step is to suggest distribution of requisite capabilities among security sector organizations (in the broad understanding of the term 'security sector'). Currently, the main consideration are the traditional roles of the organisations related to maritime security, often fixed in specific organizational laws. That is certainly an important consideration; however, in the face on new security threats and the strive for efficiency, there is a need for a broader rational and transparent framework that includes development and assessment of various cost-efficiency measures, e.g., specialization of security sector organizations in certain types of capabilities..

As a start, there is a need to define lead and contributing organizations for each type of requisite capability, and the sort of contribution each organization makes.

Certain capabilities, i.e., management, command and control capabilities, do require interagency coordination and/or creation of centralized supra-agency bodies.

Planning Risks

The final step in *planning* maritime security capabilities is the assessment of the planning risks and the incorporation of risk estimates in the decision-making framework, i.e., in decisions on transformation initiatives, capability levels, levels and distribution of resource allocation.

The rule in policy-making is that demands always exceed resource availability. Policy-makers and planners need to balance goals, strategy, and means, with risk being the balancing factor. Hence, a realistic policy is based on the recognition that it is not possible to *guarantee* maritime security against all possible threats. Instead, it is based on a risk management approach. Policy-makers and planners distinguish four related types of risks [13]:

- *Operational* risks, associated with the current structure of the security sector that, when necessary, will execute the strategy successfully within acceptable human, material, financial, and strategic cost.

- *Planning*, or *future challenges* risks, associated with future capacity to execute missions successfully against a spectrum of prospective future challenges.

- *Implementation*, or *management* risks, associated with the successful implementation of decisions and plans for development of the security sector. The primary concern here is recruiting, training, and retaining personnel, equipping security sector organizations, and sustaining an adequate level of readiness.

- *Institutional* risks, associated with the capacity of new command, management, and business practices.

The second category of risk is of primary importance in making planning decisions and, thus, in designing the policy for protection of maritime security. Planning risk is measured through the impact or consequence of an unfavourable outcome, given the occurrence of some threatening event and security sector capabilities. The measure of risk is probabilistic. It is defined by the likelihood of the occurrence of an event and the estimated consequences in case the event occurs and we have certain level of capabilities.

Thus, one criterion in planning the capabilities for protection of maritime security is the minimisation of the planning risk over the set of planning scenarios.

Main Analytical Support Requirements

The planning framework, presented herein, can be implemented more effectively if analytical support to the planning process is available. Key at this stage is the availability of analytical support in the development of:

- planning scenarios and selection of an appropriate scenario set

- criteria and measures of effectiveness

- capability models, applicable in and comparable between security sector organisations

- frameworks for comparative cost-benefit assessments

- comparative, security sector wide assessment of planning risks, etc.

In conclusion, a rational policy for protection of maritime sovereignty could be formulated through practical application of this framework. The main problem for this application is the lack of coordination, often even communication, among the variety of organisations with responsibilities for the protection of Bulgaria's interests in the Black sea region. Nevertheless, the availability of sound policy-making framework and analytical capacity to support the planning process could provide a moajor contribution to the creation of a transparent and effective maritime security policy.

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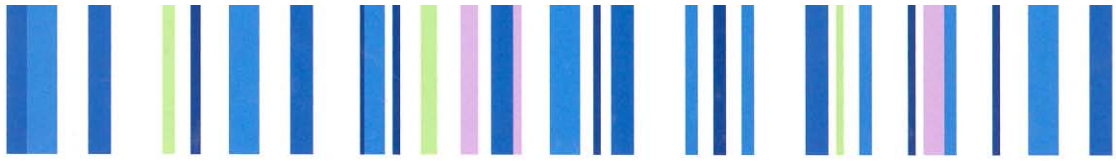
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