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**GENERAL NOTICE**

**Communications, Department of**

*General Notice*

1275 *Electronic Communications Act (36/2005): Notice of intention to make South African National Radio Frequency Spectrum Policy: Invitation to furnish written submissions.....*

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**GENERAL NOTICE**

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**NOTICE 1275 OF 2009****DEPARTMENT OF COMMUNICATIONS****NOTICE OF INTENTION TO MAKE SOUTH AFRICAN NATIONAL RADIO  
FREQUENCY SPECTRUM POLICY**

I, Gen (Ret) Sipiwe Nyanda, Minister of Communications, hereby give notice of intention to make South African National Radio Frequency Spectrum Policy in the schedule in terms of section 3(1) of the Electronic Communications Act, 2005 (Act No. 36 of 2005).

Interested persons are hereby invited to furnish written submissions on the proposed South African National Radio Frequency Spectrum Policy, within 30 calendar days of the date of publication of this notice at any of following addresses:

For attention: Ms. Cynthia Lesufi  
Deputy-Director, Frequency Spectrum  
Department of Communications;

post to: Private Bag X860  
Pretoria  
0001;

or deliver to: First Floor, Block F  
iParioli Office Park  
399 Duncan Street  
Hatfield, Pretoria;

or fax to: (012) 427 8455;

or e-mail to: spectrum@doc.gov.za

Please note that submissions received after the closing date may be disregarded.

Ms. Cynthia Lesufi can be reached at tel. (012) 427 8512 for any enquiries.



**Gen (Ret) Sipiwe Nyanda  
Minister of Communications**



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DEPARTMENT:  
COMMUNICATIONS  
REPUBLIC OF SOUTH AFRICA

**DRAFT**  
**RADIO FREQUENCY SPECTRUM POLICY**

**FOR SOUTH AFRICA**

**SEPTEMBER 2009**

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## **1.0 INTRODUCTION**

### **1.1 Context**

- 1.1.1 The Radio Frequency Spectrum is a limited natural virtual resource where, in certain frequency bands, the demand for spectrum far exceeds the amount of spectrum that is available. The radio spectrum is available equally in every country, and is a resource limited by technology and management capability. It is not a consumable resource.
- 1.1.2 Management of the radio-frequency spectrum is subject to Government authority and spectrum must be managed efficiently so as to be of greatest benefit to the entire population.
- 1.1.3 The Minister of Communications acts as the custodian of the spectrum on behalf of the people of South Africa.
- 1.1.4 To date there has not been a national policy on spectrum usage. This has resulted in piecemeal/ad hoc decisions being taken on spectrum usage in South Africa that have often been driven by commercial considerations only. To ensure efficient use of the radio frequency spectrum in South Africa, it is necessary for Government to issue policies and policy directions in order to ensure that this resource is used in the best interest of the Republic of South Africa. This national radio frequency spectrum policy has been developed to ensure efficient spectrum usage and to provide over-arching guidance for the utilisation of radio frequency spectrum in the broad national interest.
- 1.1.5 In the Republic of South Africa, use of the radio frequency spectrum is governed by Electronic Communications Act, 2005 (Act No.36 of 2005). The former Minister of Communications ("the Minister"), in her 2008 budget speech, announced that, following the decisions taken at the 2007 International Telecommunication Union World Radiocommunication Conference about the use of spectrum, Government was to finalise the development of a policy on

spectrum allocation and its implementation, taking into account the latest modifications to the international spectrum regulations.

1.1.6 In allocating the Radio Frequency Spectrum, the Republic of South Africa must take into account the outcomes of the International Telecommunication Union World Radiocommunication Conferences.

1.1.7 Government regards the radio frequency spectrum as a natural international resource in the public domain; consequently Government will issue policies and policy directions to ensure that this resource is used in the best interest of the Republic of South Africa, but with due regard to the needs and rights of other countries.

1.1.8 Spectrum management takes place within a regulatory framework comprised of policies, legislation, regulations and procedures.

1.1.9 The radio frequency spectrum is a key resource for many essential communication services in society such as, mobile, fixed wireless and satellite communications, television and sound broadcasting, transport, radiolocation, (Global Positioning Systems) radio navigation, safety of life and many other applications. Radio technology supports public services such as defence, safety and security as well as scientific activities (e.g. meteorology, earth observation, radio astronomy, space research, etc.)

1.1.10 Radiocommunication, which is reliant on the electromagnetic spectrum, is one of South Africa's most dynamic technology sectors. South African society and the entire industry rely on radio frequency spectrum, a resource where the demand far exceeds the supply.

1.1.11 The Radio Frequency Spectrum Policy ("the Policy") aims to provide guidance to the Independent Communication Authority of South Africa ("ICASA") in the establishment and review of the national frequency allocation plan, and thereby promote the rational, economical, efficient and effective usage of the radio frequency spectrum; keeping pace with the rapid evolution of wireless

technologies and services within the framework of the Government strategic objectives.

1.1.12 This Policy, in addressing the radio frequency spectrum; a scarce national resource, further intends to provide guidance on the allocation of frequencies to the different radiocommunication services in the country.

1.1.13 In addition, the Policy aims to contribute to the promotion of national interests, development and diversity, including increasing the amount of spectrum available for assignment, improving sharing conditions among different radio communication services and increasing the number of licences dedicated to community radio and television broadcasting services.

1.1.14 The Policy, moreover, aims to ensure a co-ordinated and harmonised national approach to spectrum usage, set conditions for the availability and efficient use of radio spectrum by various services to support specific national objectives, and to provide a greater degree of predictability and certainty to current and future stakeholders in the use of the spectrum.

1.1.15 This Policy will provide guidance to the Independent Communication Authority of South Africa ("ICASA") in the establishment and review of the national frequency allocation plan, and thereby promote the rational, economical, efficient and effective usage of the radio frequency spectrum; keeping pace with the rapid evolution of wireless technologies and services within the framework of the Government strategic objectives.

1.1.16 This Policy takes into consideration all sectors of the country's economy and government social priorities to balance the different needs and interests in order to contribute to objectives of the Accelerated Shared Growth Initiative for South Africa ("ASGI-SA").

1.1.17 The Policy:

- provides guidance on issues related to the radio frequency spectrum and the establishment and review of the national frequency plan;
- establishes principles for spectrum management;

- contributes to the promotion of national interests within the framework of Government strategic objectives;
- provides for the availability of spectrum for safety of life services;
- provides for the allocation of spectrum for government services; and
- provides for the allocation of spectrum for scientific research.

## **1.2 Legal Framework**

- 1.2.1 In South Africa radio frequency spectrum policies and usage is governed by the ECA, Act No 36 of 2005, which has, as one of the main objects, to ensure efficient usage of the radio frequency spectrum.
- 1.2.2 In terms of the provisions of the ECA, the Minister of Communications is responsible for issuing Policies and Policy Directions in relation to the radio frequency spectrum.
- 1.2.3 On the other hand ICASA has the responsibility of controlling, planning, administering and managing the usage and licensing of the radio frequency spectrum.
- 1.2.4 In order to fulfil its functions ICASA issues National Radio Regulations that must be adhered to by all the users of national spectrum.

## **1.3 International Perspective**

- 1.3.1 South Africa is a signatory to the Constitution and Convention of the International Telecommunication Union ("ITU"). This is an international treaty binding on all member states.
- 1.3.2 The provisions of the ITU Constitution and the Convention are further complemented by Administrative Regulations such as the Radio Regulations, which also have international treaty status.



- 1.3.3 In accordance with the ITU Constitution, South Africa shall endeavour to limit the number of frequencies and the spectrum used to minimal essential to provide in a satisfactory manner the necessary services. To that end, South Africa shall endeavour to apply the latest technical advances as soon as possible (No.195 of the ITU Constitution).
- 1.3.4 In South Africa all stations, whatever their purpose, must be established and operated in such a manner as not to cause harmful interference to the radio services or communications of other Member States.
- 1.3.5 The ITU table of frequency allocations must form the basis of the structure of the South African Table of Frequency Allocations.

#### **1.4 Regional Perspective**

- 1.4.1 The Minister is responsible for the co-ordination and approval of any Regional radio frequency spectrum plans applicable to South Africa.

#### **1.5 Benefits of the Radio Frequency Spectrum Policy**

- 1.5.1 Spectrum management must serve the national interest, promote the country's economic and social development and ensure safety of life.
- 1.5.2 The Policy will, for the first time, provide guidance to ICASA in the development of the national table of frequency allocations, particularly where there are competing services in a particular frequency band.
- 1.5.3 The Policy will also ensure that government objectives are catered for in the table of frequency allocations.
- 1.5.4 The Policy will further ensure the rational and effective utilization of the spectrum in South Africa.

## **2.0 OBJECTIVES OF THE RADIO FREQUENCY SPECTRUM POLICY**

The objectives of this Policy are to:

- 2.1 establish the environment within which a national spectrum policy objectives are implemented;
- 2.2 establish principles for spectrum management;
- 2.3 establish guidelines for radio frequency spectrum planning so as to ensure the efficient and effective usage of the radio frequency spectrum;
- 2.4 set guidelines for spectrum usage;
- 2.5 establish principles for spectrum fees;
- 2.6 contribute to the promotion of national interests, development and diversity within the framework of Government strategic objectives;
- 2.7 ensure the availability of spectrum for safety of life services;
- 2.8 provide spectrum for government services; and
- 2.9 facilitate scientific research.

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### **3.0 RADIO FREQUENCY SPECTRUM MANAGEMENT**

- 3.1 National spectrum management must ensure that adequate spectrum is provided over both the short and long term in order that all potential spectrum users, both public and private, are able to achieve their objectives.
- 3.2 Spectrum management shall make use of state of the art practices, recognised latest technical standards/advances, and continuously trying to use computer aided tools and techniques.
- 3.3 Spectrum management shall encourage sharing radio frequency spectrum among different radio users and services, where appropriate, making use of proper sharing criteria and suitable mitigation techniques.
- 3.4 The Department of Communications, acting on behalf of the Minister, is responsible for all international spectrum matters including Regional and sub-Regional spectrum planning, all cases concerning international harmful interference and international frequency co-ordination. Where necessary, the Department will liaise with ICASA in such matters.
- 3.5 Spectrum pricing is a fundamental component of spectrum management. Spectrum pricing can be used as a tool to ensure that operators pay a fair value for spectrum usage through an appropriate fee system, and also to either encourage or discourage spectrum users to apply for and/or operate in particular frequency bands. Spectrum pricing should be such that radio-based technologies can be used as a business aid by all companies irrespective of size. Care must be taken to ensure that the pricing system does not act as a barrier to entry for users of the spectrum. It must also be borne in mind that there is a risk that service providers will pass on the cost of spectrum fees to their customers thus making services unaffordable. Spectrum pricing policy aims to ensure that:
- 3.5.1 Number and type of applications for spectrum usage reflect the value users put on their spectrum use;

- 3.5.2 Existing users examine their spectrum needs and give up surplus spectrum;  
and
- 3.5.3 New users and new technologies have an opportunity of gaining access to  
the spectrum.

#### **4.0 NATIONAL RADIO FREQUENCY SPECTRUM PLANNING**

- 4.1 One of the primary objectives of spectrum planning is to allocate frequency bands to the various radio services in accordance with national needs, but at the same time taking into account the ITU Table of Frequency Allocations as contained in Article 5 of the ITU Radio Regulations. The Minister is responsible for ensuring that long-term spectrum planning is carried out in accordance with Government policies.
- 4.2 In order to promote as much as possible sharing spectrum among services the national table of frequency allocations should follow as closely as possible the ITU frequency allocations for ITU Radio Region 1 (Africa, Europe).
- 4.3 When there are competing interests for the use of spectrum, ICASA must make a determination as to the allocation that will best serve the national and public interest. The decision of ICASA must be based on guidelines established by this Policy.
- 4.4 The designation of frequency bands for specific uses represents the first step in efficient and effective spectrum usage.
- 4.5 This Policy aligns with the terms of the Preamble 0.2 of the ITU Radio Regulation. In order for the spectrum to be used efficiently and effectively, the sharing of the available spectrum between different radiocommunication services must be co-ordinated within national boundaries in accordance with national regulations, and in accordance with the ITU Radio Regulations. The ability to take full advantage of the spectrum as a national resource depends heavily on spectrum managers facilitating the implementation of radio systems, and

ensuring minimum interference or compatible operation. Therefore, every available means to improve national spectrum management and international co-ordination needs to be implemented.

- 4.6 Effective management of the radio frequency spectrum is essential to the future growth of electronic communications services in South Africa.
- 4.7 In cases where there are competing services in a particular frequency band and where the decisions of an ITU WRC are not necessarily in the national interest, the Minister will issue appropriate policy directions to ICASA regarding the service allocation to be made in the national table of frequency allocations.

## **5.0 USAGE OF THE RADIO FREQUENCY SPECTRUM**

- 5.1 Government supports the establishment of infrastructure for *Radiocommunication applications based on, technology neutrality.*
- 5.2 Government considers the radio frequency spectrum to be a vital national resource. Any rights of users to operate on any radio frequency are rights held by the South African Government.
- 5.3 *The radio frequency spectrum as a national resource must promote the proper use of the digital dividend, regarding access to services using the radio frequency spectrum, by encouraging the use of wireless broadband technologies particularly in under serviced areas.*
- 5.4 The usage of frequency-efficient equipment as well as the usage of frequencies above 30 GHz shall be promoted.
- 5.5 The Republic of South Africa will promote a harmonised usage of the spectrum at regional level trying to improve the economy of scales of equipment and promoting a unified regional band plan.
- 5.6 The hoarding of spectrum by operators is not conducive to efficient spectrum usage and this practise is strongly disapproved of. ICASA shall strictly apply the principle of "use or lose it" to all spectrum licensees.

- 5.7 Spectrum users must make the most efficient usage of the spectrum licensed to them, and must release any unused spectrum.

## **6.0 RADIO FREQUENCY SPECTRUM FEES**

- 6.1 The fees to be paid for the usage of the radio frequency spectrum should be based on factors that take into account the inherent properties of the radio frequency spectrum, such as the frequency band, congestion in the particular band, and other factors such as bandwidth, coverage, degree of loading, spectrum efficiency of the equipment used and geographical area of operation.
- 6.2 In the determination of spectrum fees, ICASA shall clearly enunciate the method used to determine the fees.
- 6.3 The fees payable for the usage of the spectrum should also incentivise the efficient and effective usage of the radio frequency spectrum, as well as promote spectrum reuse.
- 6.4 Spectrum fees shall be adjusted annually in accordance with the consumer price index.
- 6.5 ICASA shall review the basis for spectrum fees every 3 years to coincide with the Medium Term Expenditure Framework (MTEF) planning.
- 6.6 When there are competing applications or the demand for radio frequency spectrum exceeds the availability of bandwidth, market approaches for the allocation or assignment of frequencies may be applied.
- 6.7 All spectrum users should be liable for the payment of spectrum fees unless the spectrum user is exempted of payment in accordance with the ECA provisions.
- 6.8 The level of spectrum fees shall be such that the fees do not place an undue burden on either licensees or end users.

## **7.0 PROMOTION OF NATIONAL INTERESTS**

- 7.1 More radio frequency spectrum must be made available for a range of services that are in the public interest.
- 7.2 At present it is not in the public interest for South Africa to adopt the international trend towards economic based spectrum management as this will adversely affect Small, Medium and Micro-sized Enterprises (SMME's) and prospective new entrants to the ICT sector.
- 7.3 The implementations of digital technologies, which are more spectrum efficient than analogue, is encouraged in terms of the provisions of the ECA. The implementation of digital technologies will facilitate the introduction of new electronic communication services, such as e-government, broadband access, etc, which will in turn act as a catalyst for socio-economic development.
- 7.4 The digital dividend that will be created by the transition from analogue to digital broadcasting will increase the amount of spectrum available to community radio and TV broadcasting, as well as facilitating the introduction of new electronic communications services in spectrum previously exclusively allocated to broadcasting.
- 7.5 Special emphasis must be put to promote shorter implementation of new wireless technologies.

## **8.0 AVAILABILITY OF SPECTRUM FOR SAFETY OF LIFE SERVICES**

- 8.1 Priority of access to spectrum must be given to safety of life services including public safety and security communications.
- 8.2 In addition, such safety of life services must, at all time be free from harmful-interference.

## **9.0 SPECTRUM FOR GOVERNMENT SERVICES**

- 9.1 Section 34(7)(c)(i) of the ECA requires that the Minister allocate spectrum for the exclusive use of the security services, and that such spectrum be included in the national frequency plan.
- 9.2 The allocation of this spectrum will be determined in consultation with the security services.
- 9.3 The usage of the radio frequency spectrum by Government Departments shall be in order to fulfil their mandate. Government Departments shall ensure that all spectrum usage is efficient and effective.
- 9.4 In view of the limitations of the usable radio frequency spectrum, and to ensure the best possible return from the usage thereof, the Minister of Communications is responsible for:
  - 9.4.1 Spectrum allocations for national security and defence purposes;
  - 9.4.2 Spectrum allocations used for public safety and disaster relief; and
  - 9.4.3 Allocation of spectrum used for scientific research.
- 9.5 Additional spectrum shared with non-government users may also be allocated for Government services.



## 10.0 SCIENTIFIC RESEARCH

- 10.1 The radio spectrum facilitates a range of scientific applications used for research purposes.
- 10.2 Often such scientific applications must compete for spectrum with commercial applications. It is in the national interest the need for active and passive scientific research to be taken into account when allocating spectrum.
- 10.3 Government is conscious of the role that radio frequency spectrum plays in environmental and climate change monitoring, including weather forecasting, natural disaster predictions, detection and mitigation. Consequently, spectrum should be made available, as far as possible, to support and promote scientific research that among other things assist in the process of understanding climate change and the implementation of measures to mitigate its impact.
- 10.4 Government supports radio astronomers having continued access to their radio frequency bands necessary for their research, and that their sensitive observations must be free from harmful interference.

## **11.0 POLICY DIRECTIONS**

- 11.1 The principles in this policy will be supplemented by policy directions issued by the Minister on specific issues from time to time.

## **12.0 REVIEW**

- 12.1 The Department of Communications will put in place mechanisms to monitor and evaluate the implementation of this Policy. The Department of Communications shall review this Policy after every WRC or at any time as determined by the Minister of Communications.

## **13.0 CONCLUSION**

- 13.1 This Policy is guided by the unique challenges that the country faces, and how to efficiently allocate the radio frequency spectrum to address the challenges. The policy seeks to make South Africa a global leader in harnessing ICT's for socio-economic development. This policy will assist government to meet its commitment to the people of South Africa as well as to the global community, especially the developing world.

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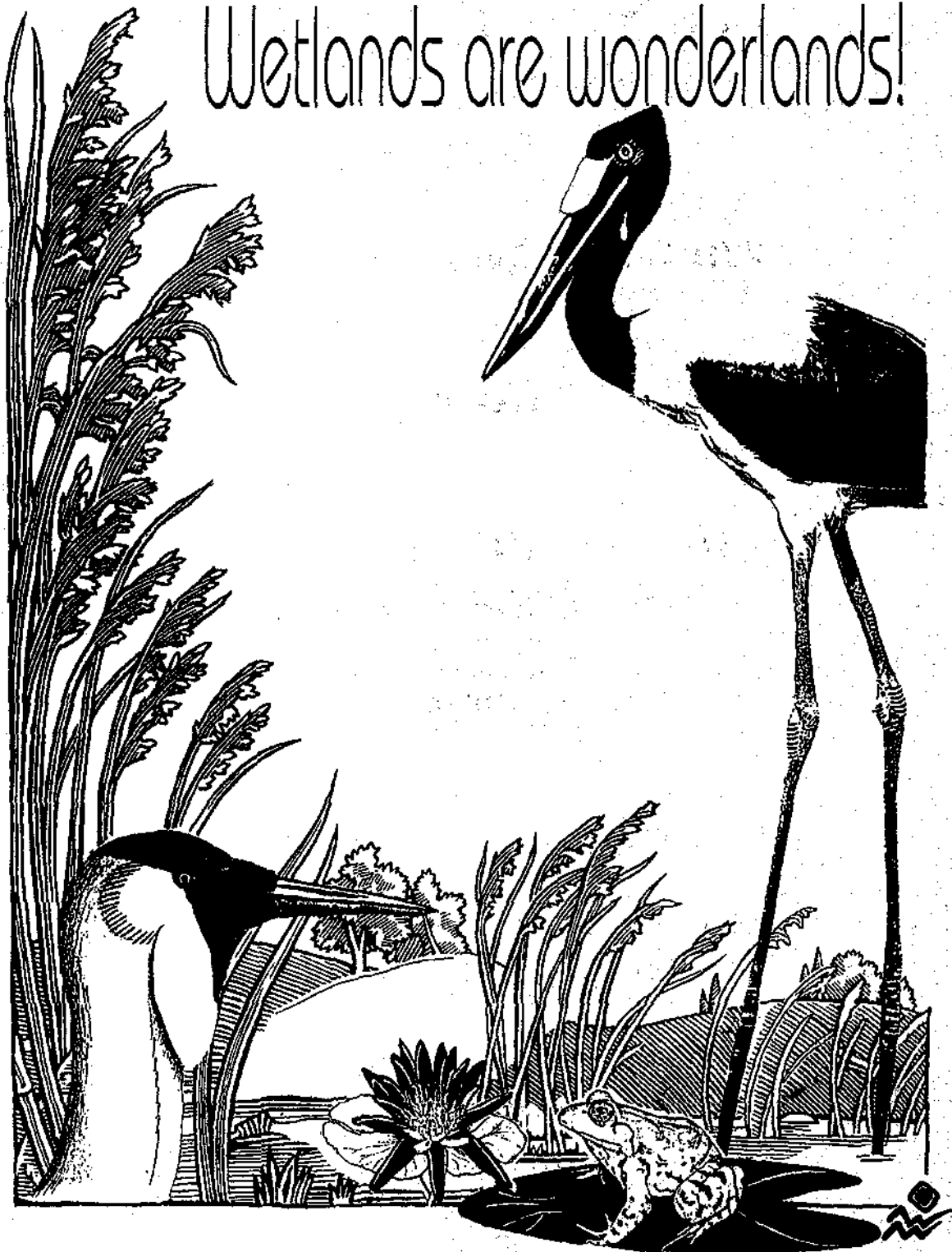
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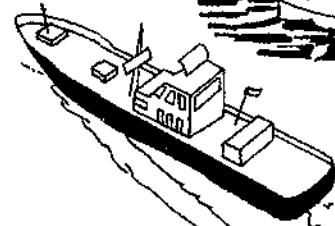
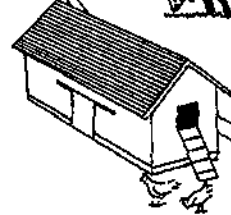
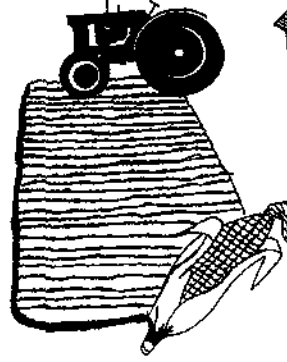
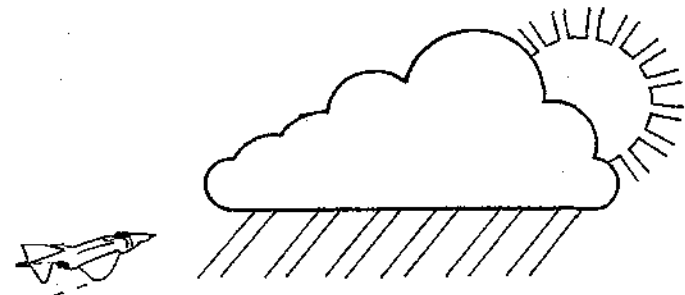
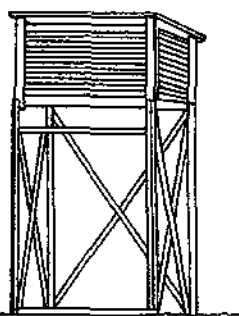
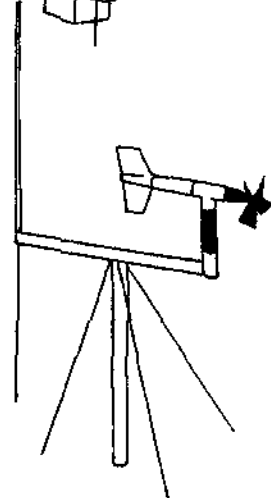
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