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*Dr Niemela*

August 13, 1971

E13

SYSTEMS ANALYSIS

(Strategic Programs)

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Strategic Command and Control Paper

Attached is the DOD Strategic Command and Control paper prepared as part of the DPRC Strategic Forces Review requested by the NSC Staff.

Comments should be provided to this office by the close of business, August 25, 1971.

*E. C. Aldridge Jr*

E. C. Aldridge, Jr.  
Director  
Strategic Defensive Division

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14-m-3360-A1

NSC Appeal 3.3(b)(1)  
CIA Appeal DIF 3.3(b)(1) + FOIA 5 U.S.C. § 552(b)(3); 50 U.S.C. § 405g

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Strategic Command and Control and Surveillance

I. Introduction

The purpose of this paper is to place the spectrum of present and potential command and control capabilities into the context of U.S. national objectives and policies for the use of strategic nuclear weapons. Issues are identified which must be addressed at National level if our strategic command and control and surveillance posture is to evolve as a unified, coherent, program which is compatible with the role that strategic nuclear weapons could play in achieving national goals. Exemplary command and control postures are presented which provide a rational basis for resolution of these issues and illustrate the range of capabilities which may be desired. Not treated in this paper are the very important questions of organizational changes within the Department of Defense for more effective planning, acquisition, and operational control of strategic command and control and surveillance assets.

II. Functions

A. The purpose of strategic command and control and surveillance systems is to support all aspects of the decision-making and decision-implementing processes at the national level regarding the utilization of strategic nuclear weapons to protect U.S. national interests. The functions involved are:

1. Warning and Alert - Knowledge that a nuclear crisis or attack is underway or can be expected. Provision of warning to key decision-makers and those strategic nuclear forces which rely on such information to achieve adequate levels of survivability.
2. Attack Assessment - Use of intelligence and sensor inputs to identify hostile and friendly elements in the crisis or attack, deduce the intentions of these elements, and determine the status of U.S. and friendly forces.
3. Decision Support - Analytical and advisory support to provide an assessment of the nature and nuclear crisis or attack, to develop alternative courses of action and to present them to the decision-maker.
4. Decision Implementation - Translation of National Command Authorities (NCA) decisions into appropriate plans and specific instructions to the forces involved.

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5. Decision Implementation Monitoring - Monitoring the success of strategic forces in implementing their assigned tasks and advising the NCA of subsequent strategic military effort required.

6. War Termination - NCA decision and communications support for bargaining and negotiating an end to the nuclear crisis of nuclear war.

B. The extent to which these functions must be performed and the nature of the strategic command and control and surveillance systems depend upon the objectives of our strategic force, the size and composition of our strategic force, and the nuclear environment in which the forces and their associated command and control may be required to operate. In general, the command and control and surveillance systems necessary to perform the missions assigned to our strategic forces fall into three categories:

1. The sensor and other information systems which provide data on which to base decisions.
2. Decision centers and command centers which provide staff support, equipment, and facilities for decision-making and translation of decisions into specific orders for strategic force elements.
3. Communications nets for passing sensor and intelligence information and for promulgating orders to strategic force elements.

Sensors consist of ground, air, and space based detection devices which warn of impending nuclear attack and/or enable us to determine the extent of the attack, its origin and, to the extent practicable, the effect of the attack on our military resources or urban/industrial areas. Other information systems provide intelligence from which to assess capabilities and intentions. Sensors can also be designed to provide information concerning the effect of our retaliatory attack.

Decision centers provide the NCA with facilities, equipment, communications and advisory personnel to provide a basis for: (1) deciding how and when to use nuclear weapons in protecting U.S. national interests, and (2) issuing guidance to implement such decisions. Command centers provide appropriate unified and specified commanders with facilities, equipment, communications, and advisory personnel with which to manage and use nuclear resources under their command in accordance with guidance and directives from the NCA. Depending on where the NCA chooses to relocate, a command center may also function as a decision center but -- unless specifically designated as an NCA decision center -- in a reduced capacity.

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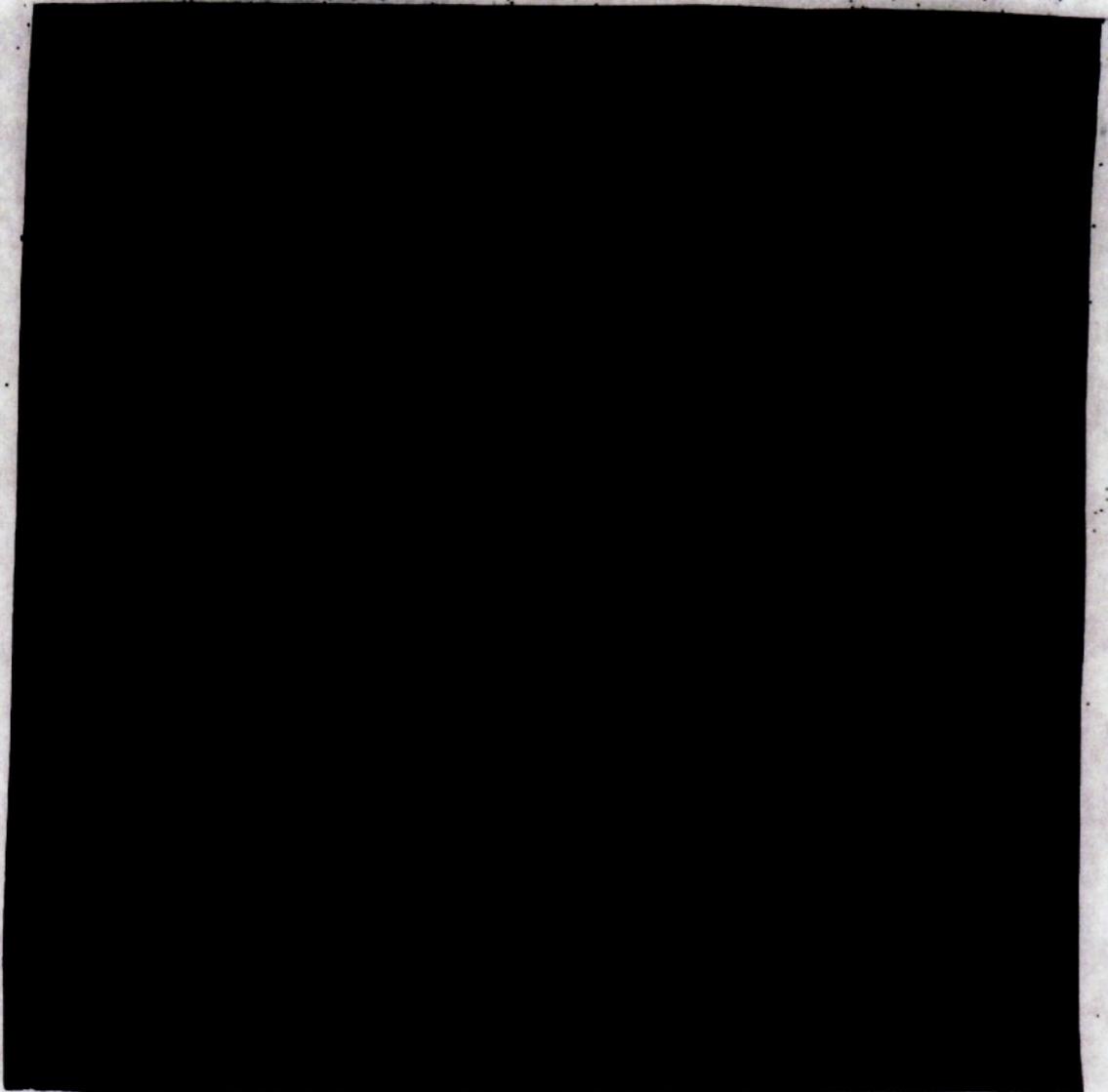
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Communication nets consist of telephone lines, submerged or hardened cables, airborne and shipborne transmitting stations, satellites, or ground transmitting stations which provide the connecting link between the NCA, local commanders, sensors and other information sources, and forces.

III. New Systems

Annex A provides a brief description of current systems either in operation or in the final stages of development which contribute to our strategic command and control and surveillance capabilities. These systems and the potential new systems described in this section provide the systems and hardware basis for determining the way our command and control posture will evolve.



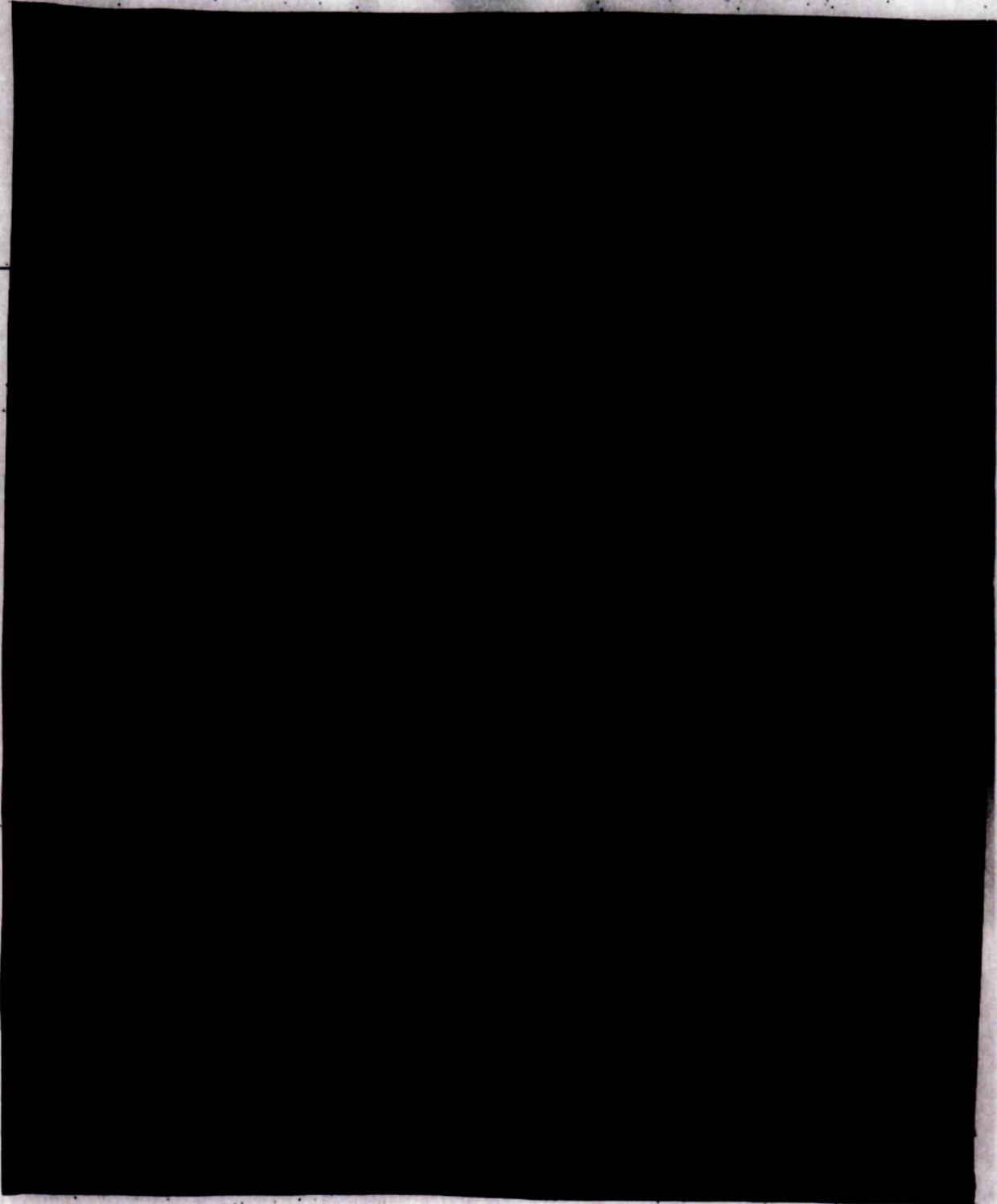
JS Appeal 3.3(b)(8)  
NSC Appeal 3.3(b)(8)  
OSD Appeal 3.3(b)(8)

CIA Appeal DIF 3.3(b)(1) + FOIA S U.S.C. § 552 (b)(3); Do U.S.C. § 403g

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JS Appeal 3.3(b)(8)  
NSC Appeal 3.3(b)(8)  
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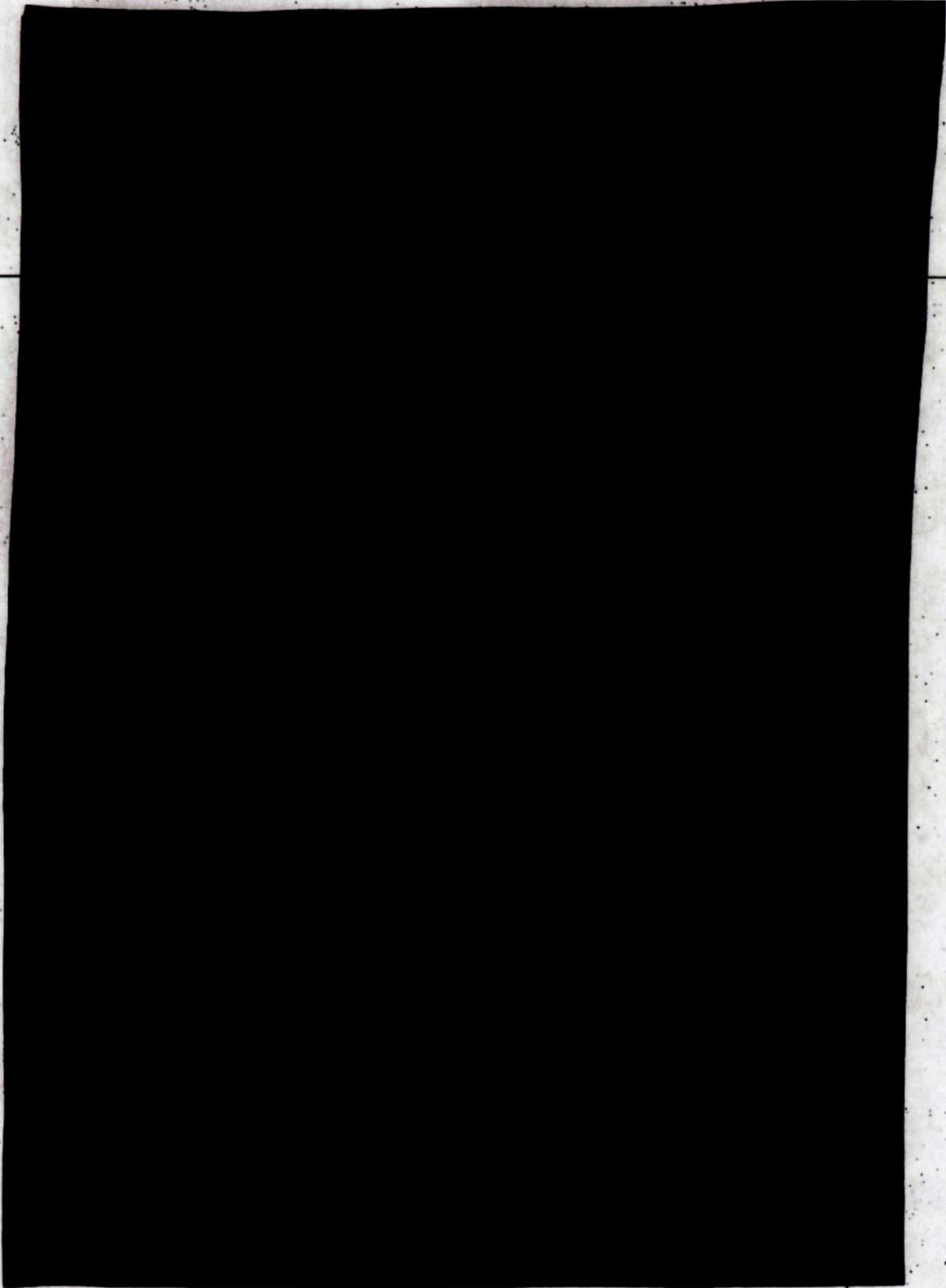


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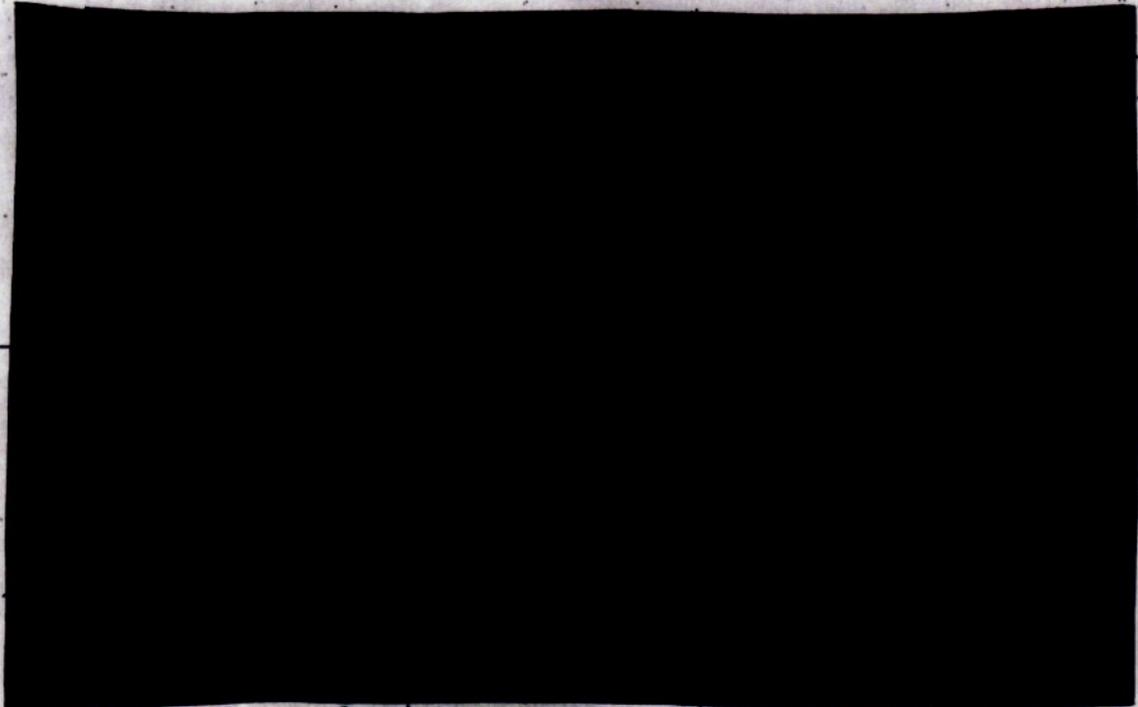
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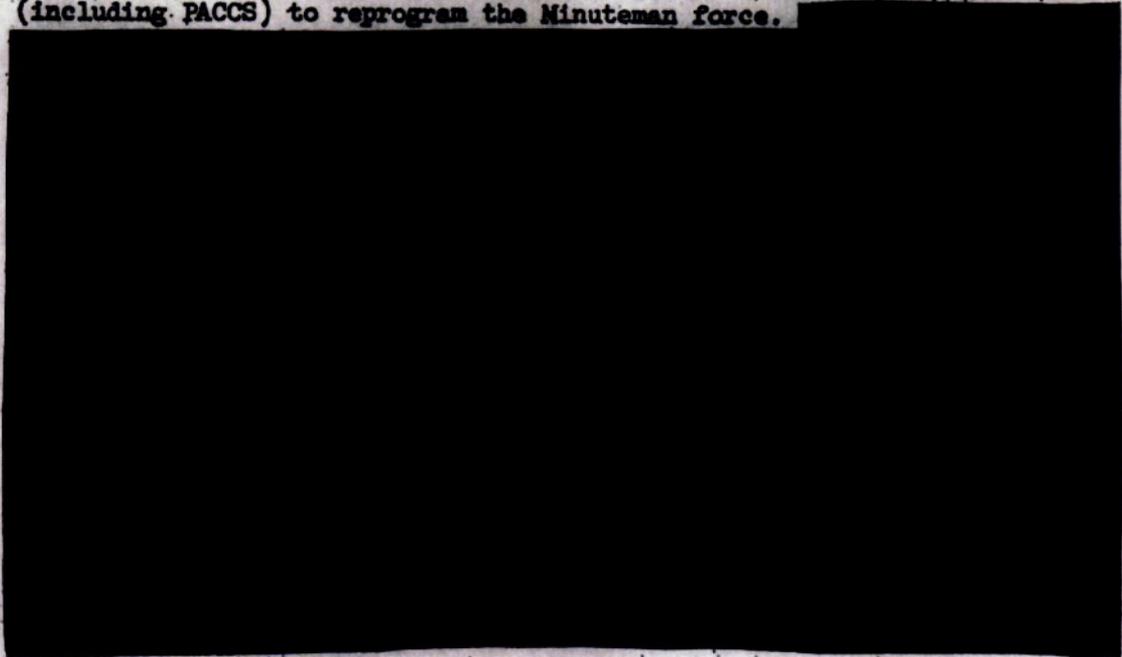


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4. Reprogramming/Retargeting\* Strategic Forces.

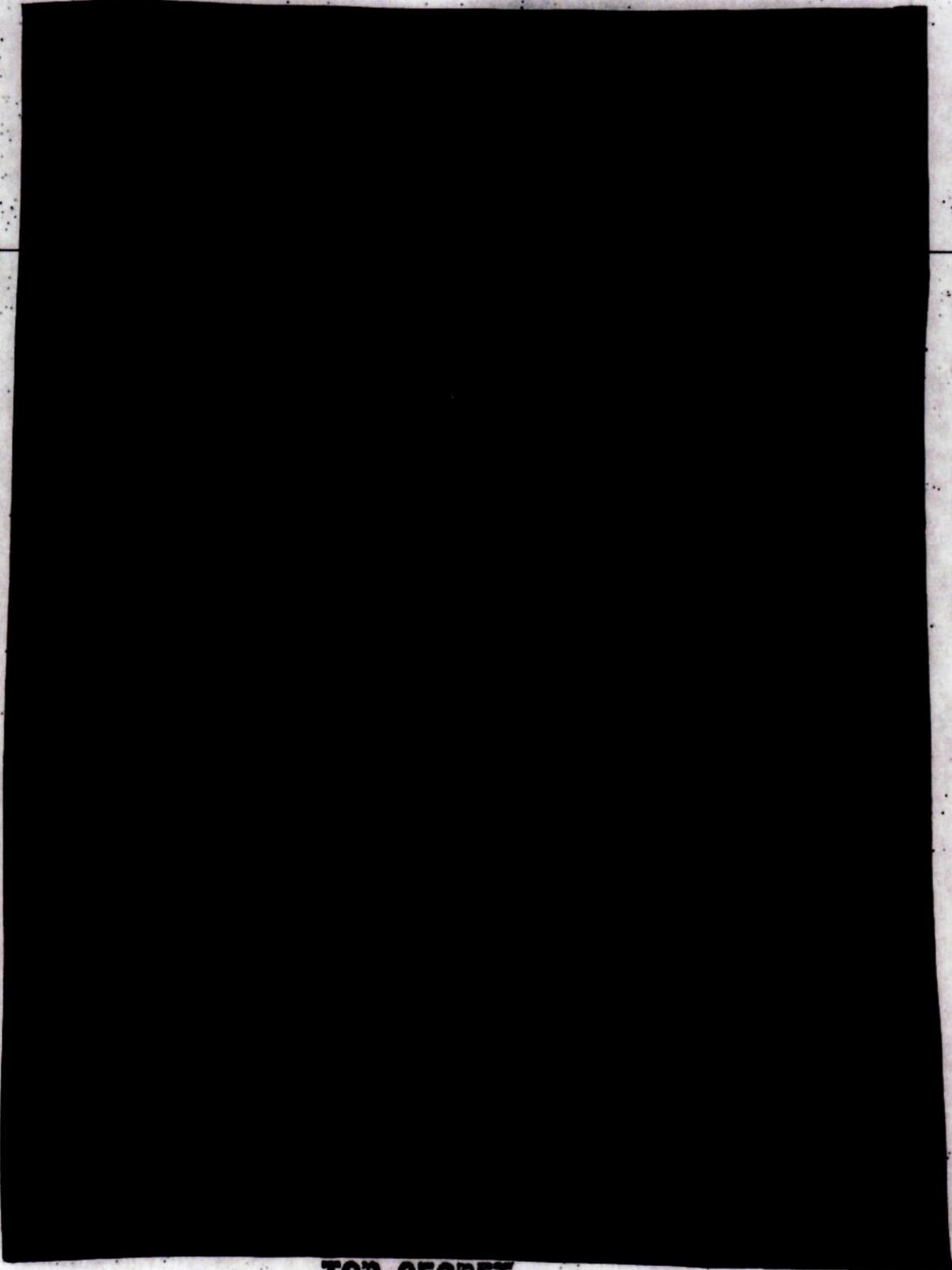
a. Minuteman Reprogramming/Retargeting - The capability exists within the current Minuteman command and control system (including PACCS) to reprogram the Minuteman force.



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NISC Appeal 3.3(b)(8)  
OSD Appeal 3.3(b)(8)

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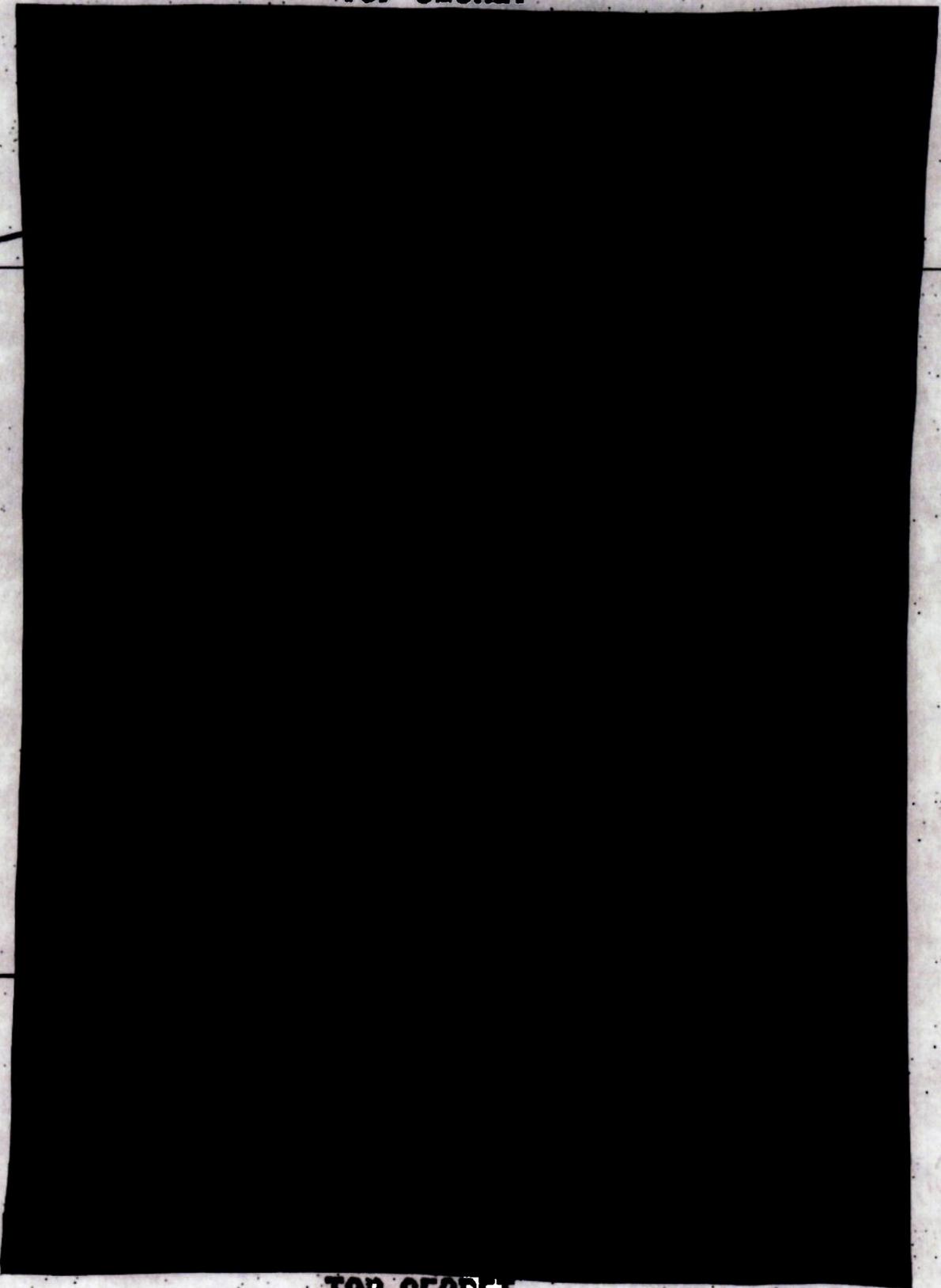
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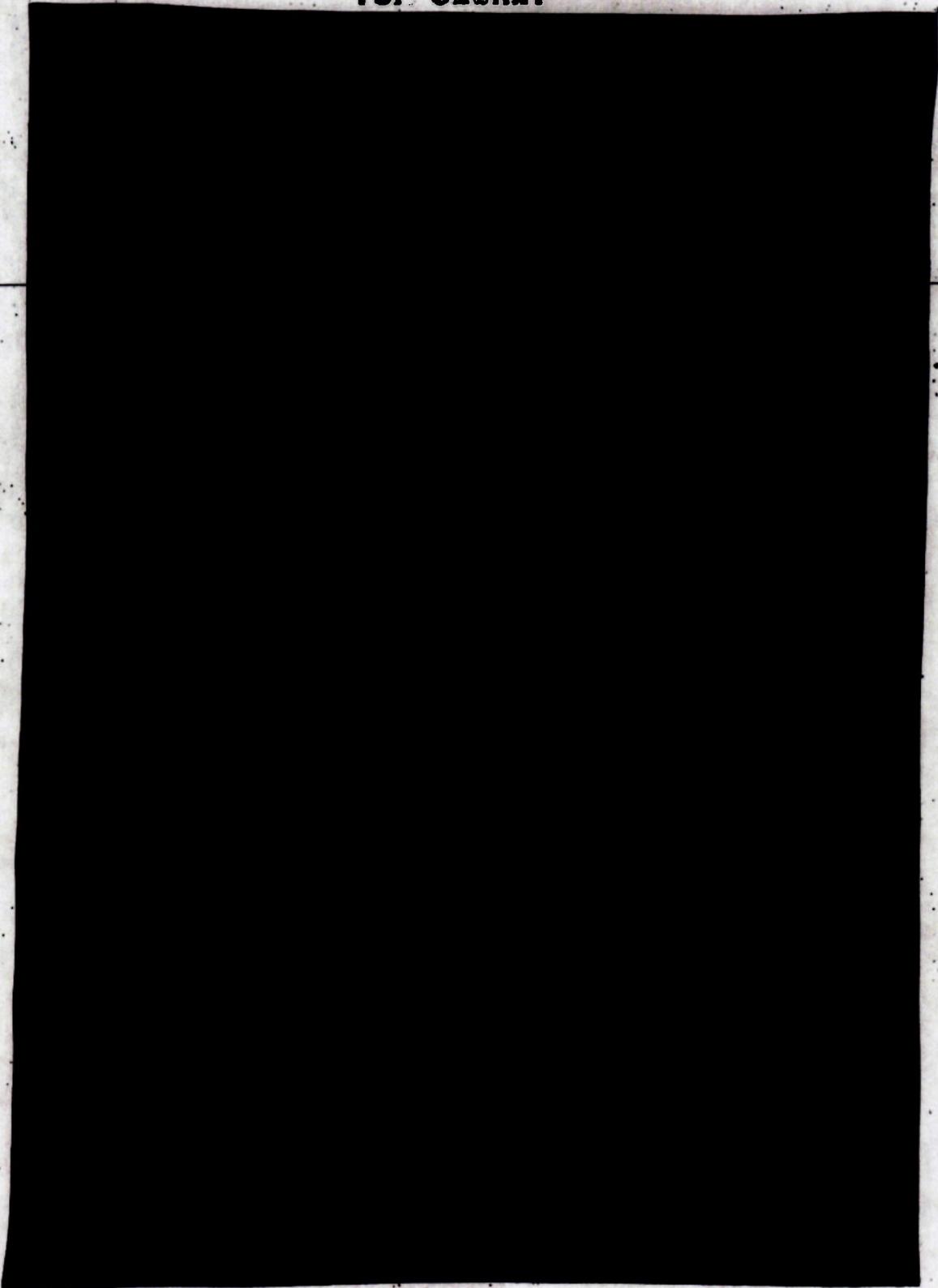


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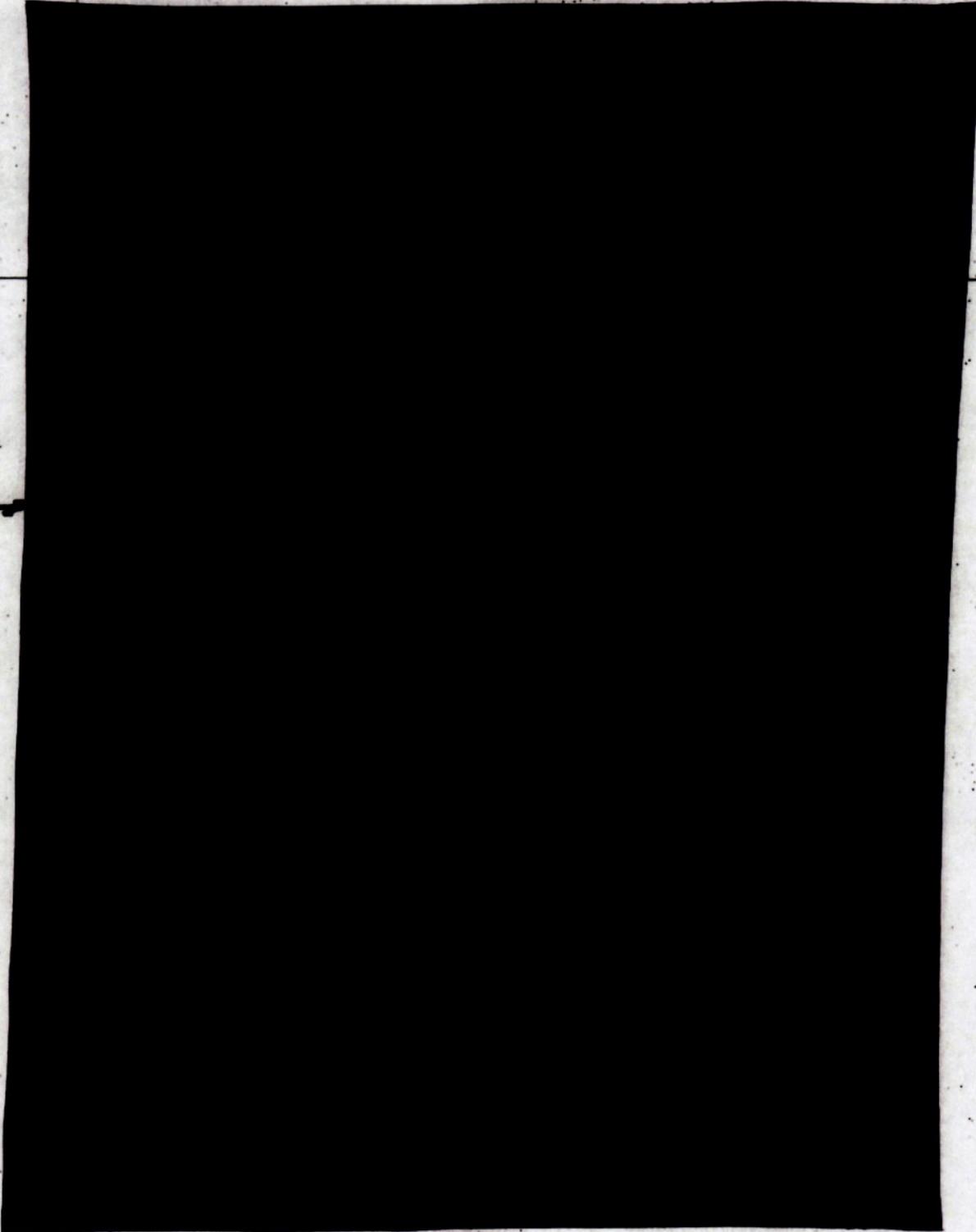
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OSD Appeal 3.3(b)(s)(8)

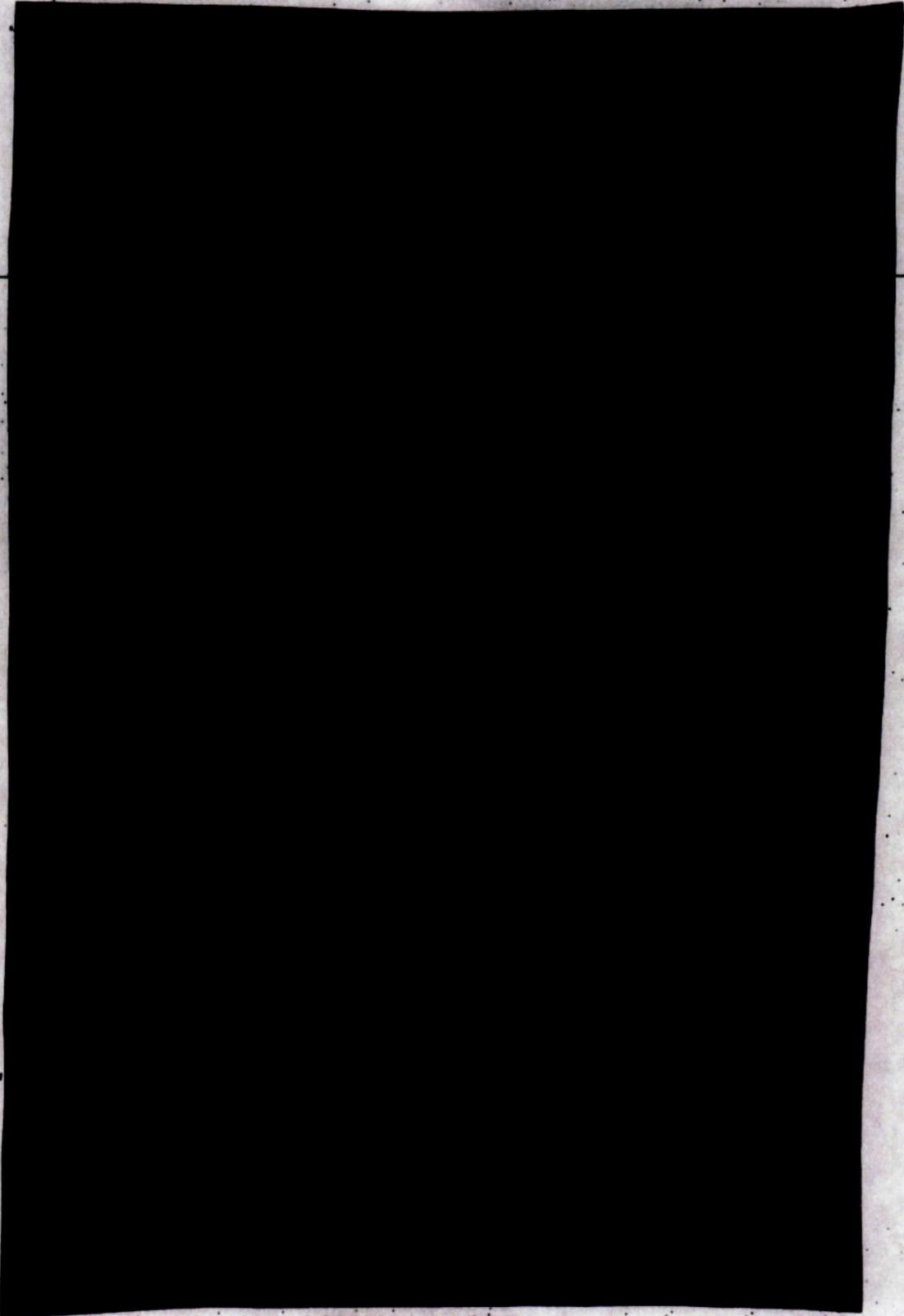
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IV. Objectives for Strategic Command and Control and Surveillance

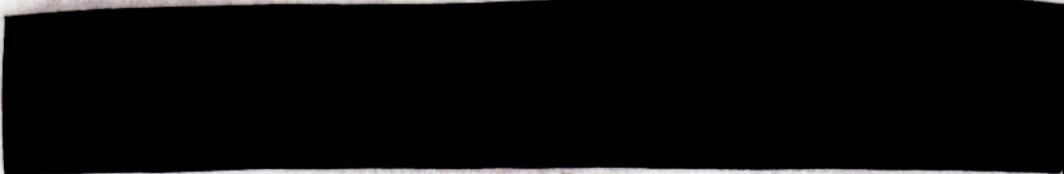
A. Introduction

It is generally agreed that some improvement in our strategic command and control are needed in order to provide high confidence and reliability in carrying out present missions. In addition there is an urgent need for improvements which will provide a greater degree of flexibility consistent with the ways in which we intend to use our strategic weapons. However, it is not clear what the term "flexibility" means in terms of systems and capabilities for strategic command and control. For this reason, this section presents a brief discussion of current objectives and issues pertaining to strategic command and control.

B. Objectives



The general objectives associated with this design philosophy seem to be:



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OSD Appeal 3.3(b)(5)(g)  
JS Appeal 3.3(b)(5)(6)(g)

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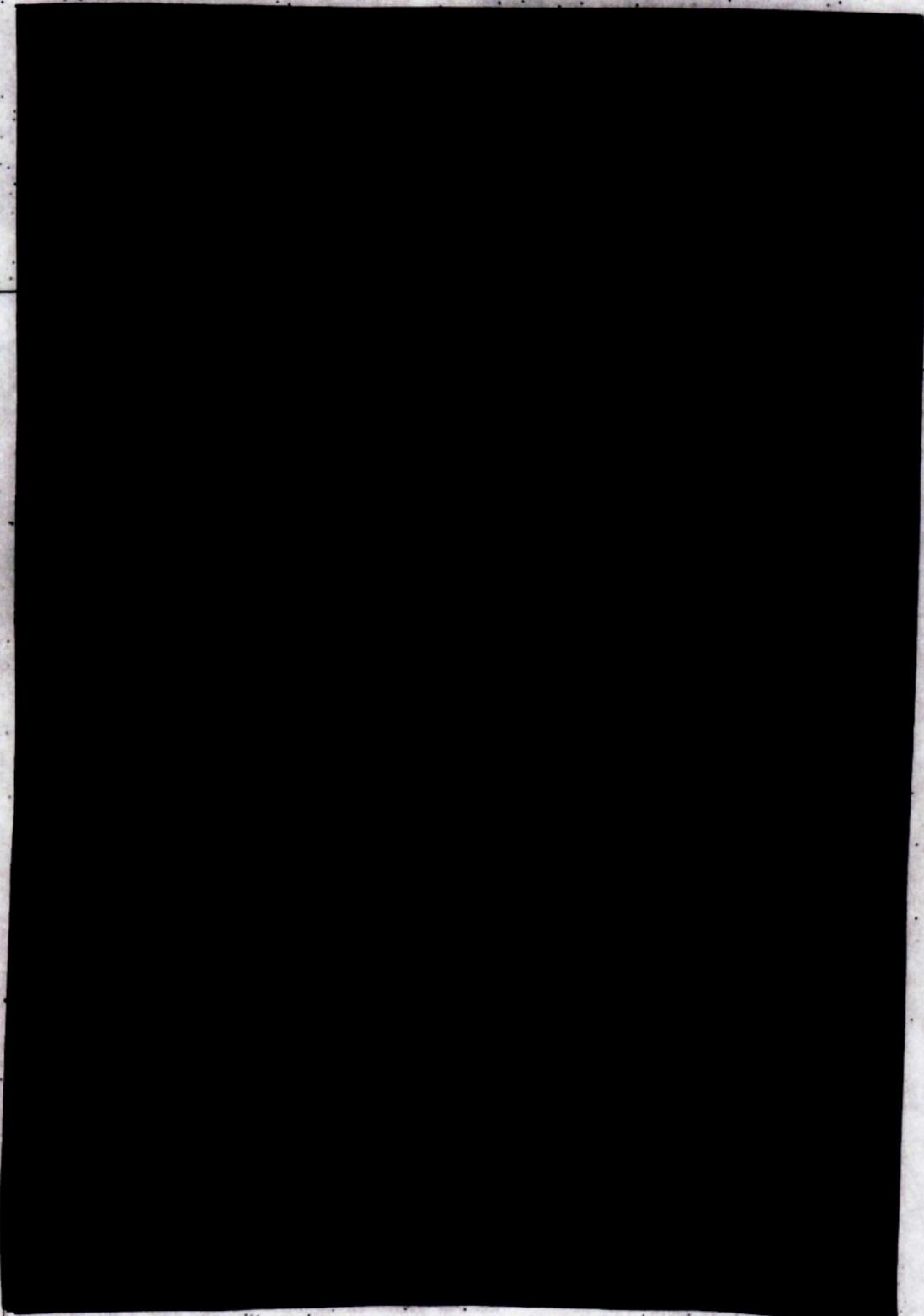
It is also desirable to be able to determine whether the Soviets are exercising restraint against our cities in a massive attack.

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NSC Appeal 3.3(b)(8)  
OSD Appeal 3.3(b)(5)(6)  
JS Appeal 3.3(b)(5)(6)(8)

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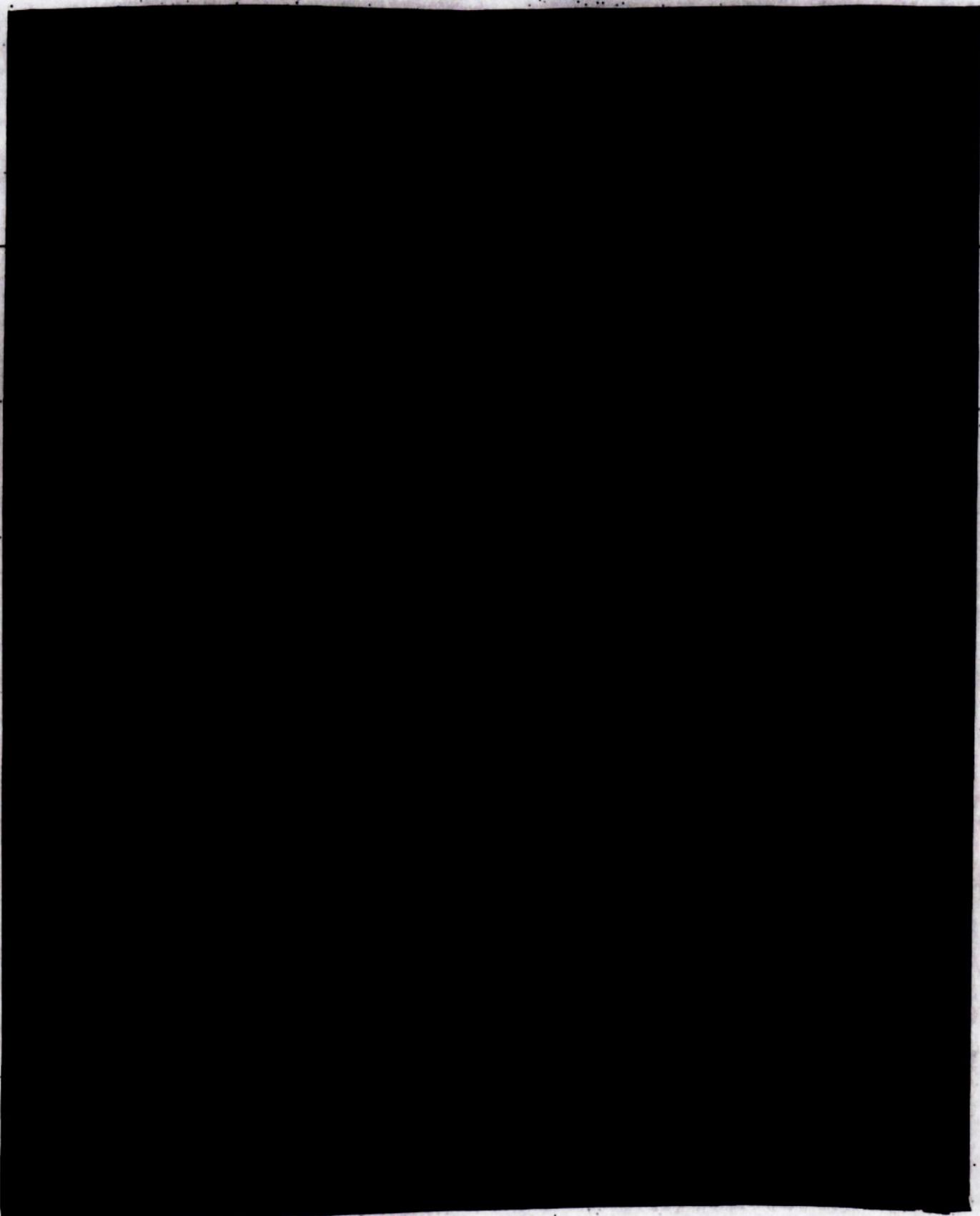


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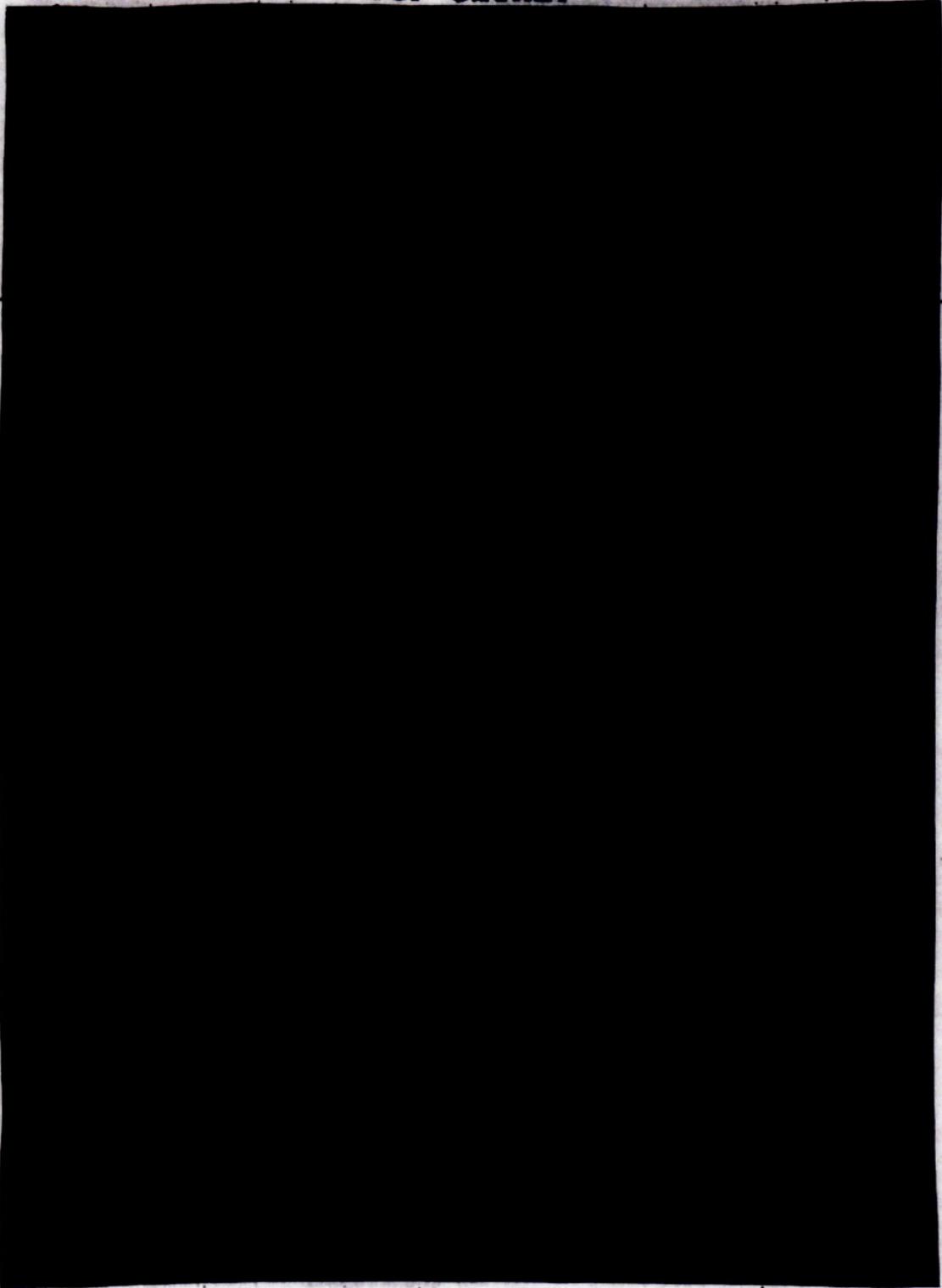
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NSC Appeal 3.3(b)(S), JS Appeal 3.3(b)(S)(8), OSD 3.3(b)(S)(8)



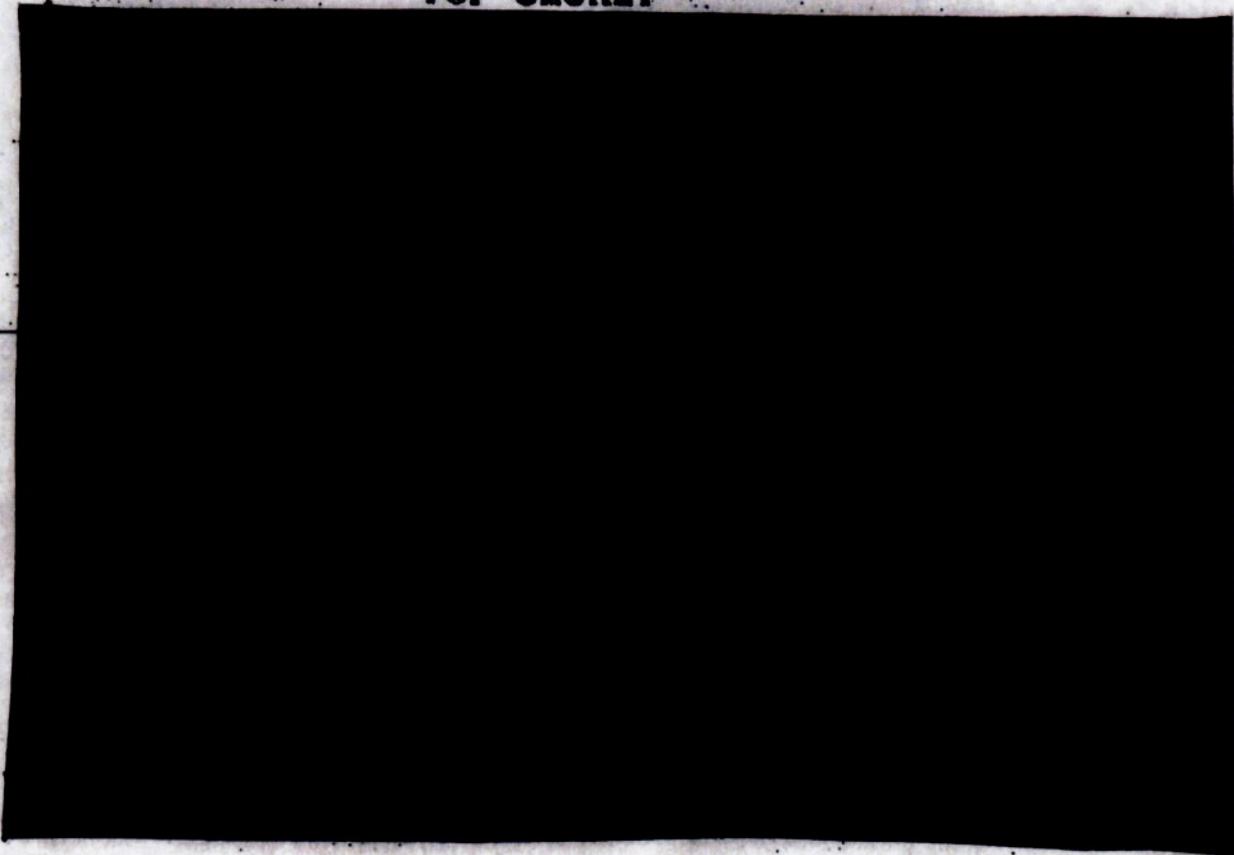
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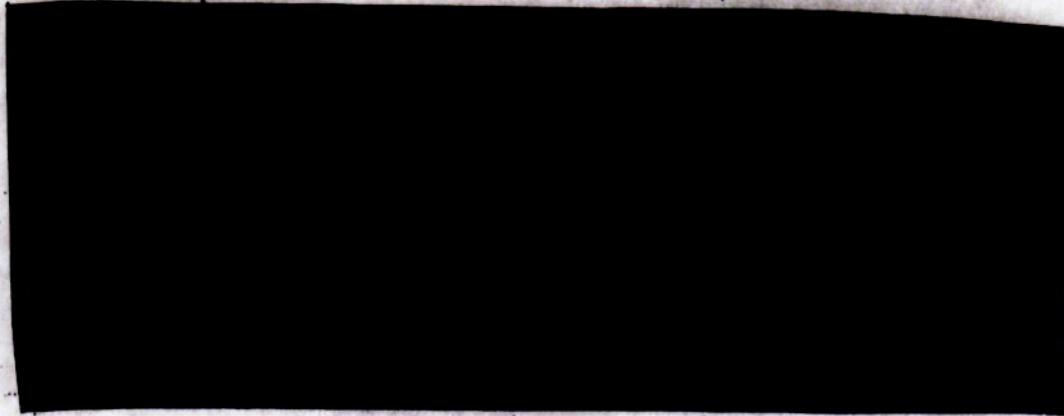
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NSC 3.3(b)(5)  
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OSD Appeal 3.3(b)(5)(8)

V. Strategic Command and Control and Surveillance Postures

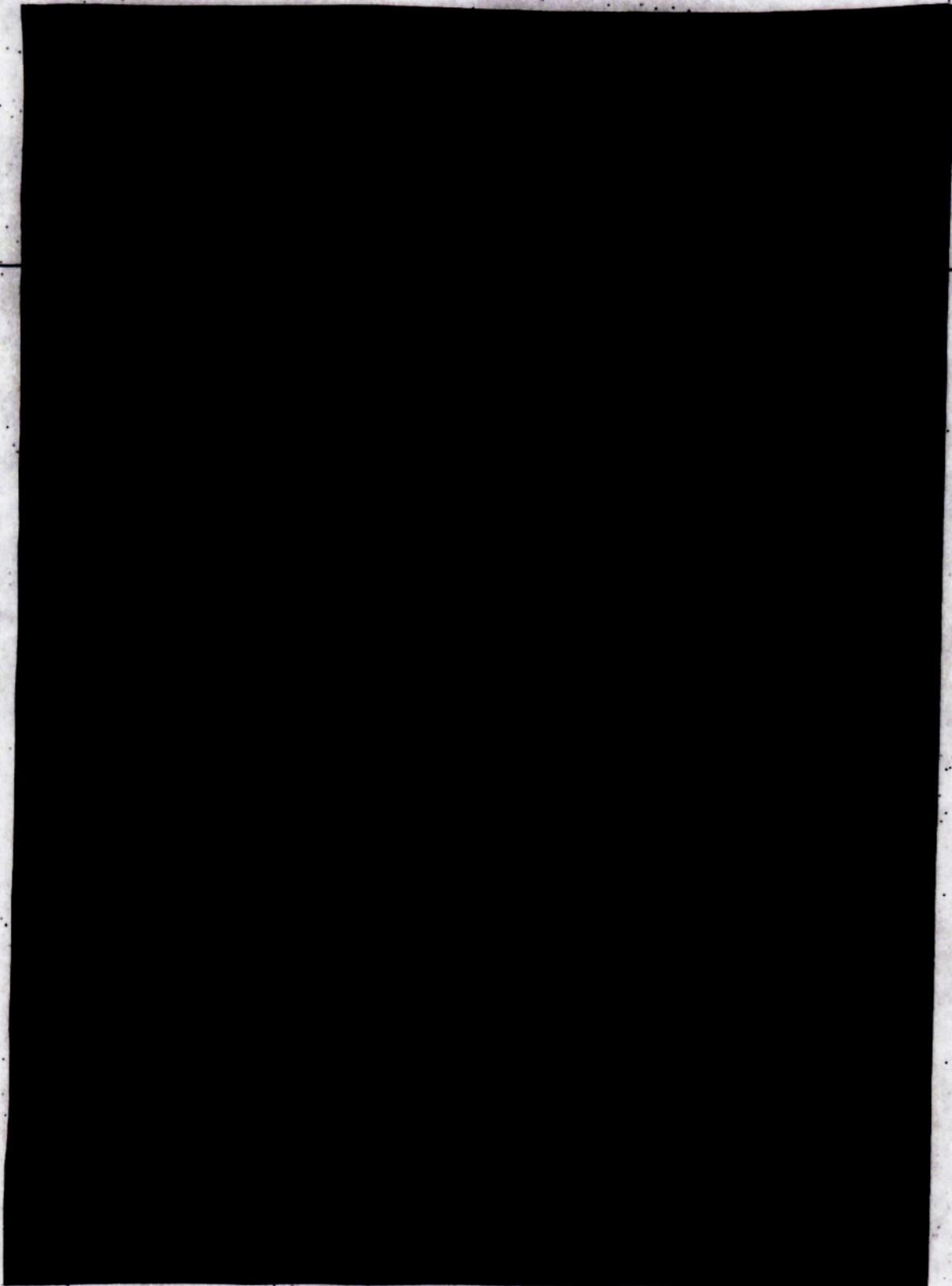
The system described in Annex A and the new systems described in Section II provide a number of system choices and capabilities which could be available to support the use of strategic nuclear weapons to protect U.S. national interests. In relating these systems and capabilities to the objectives of our strategic forces, the vehicle of the strategic command and control posture is used.



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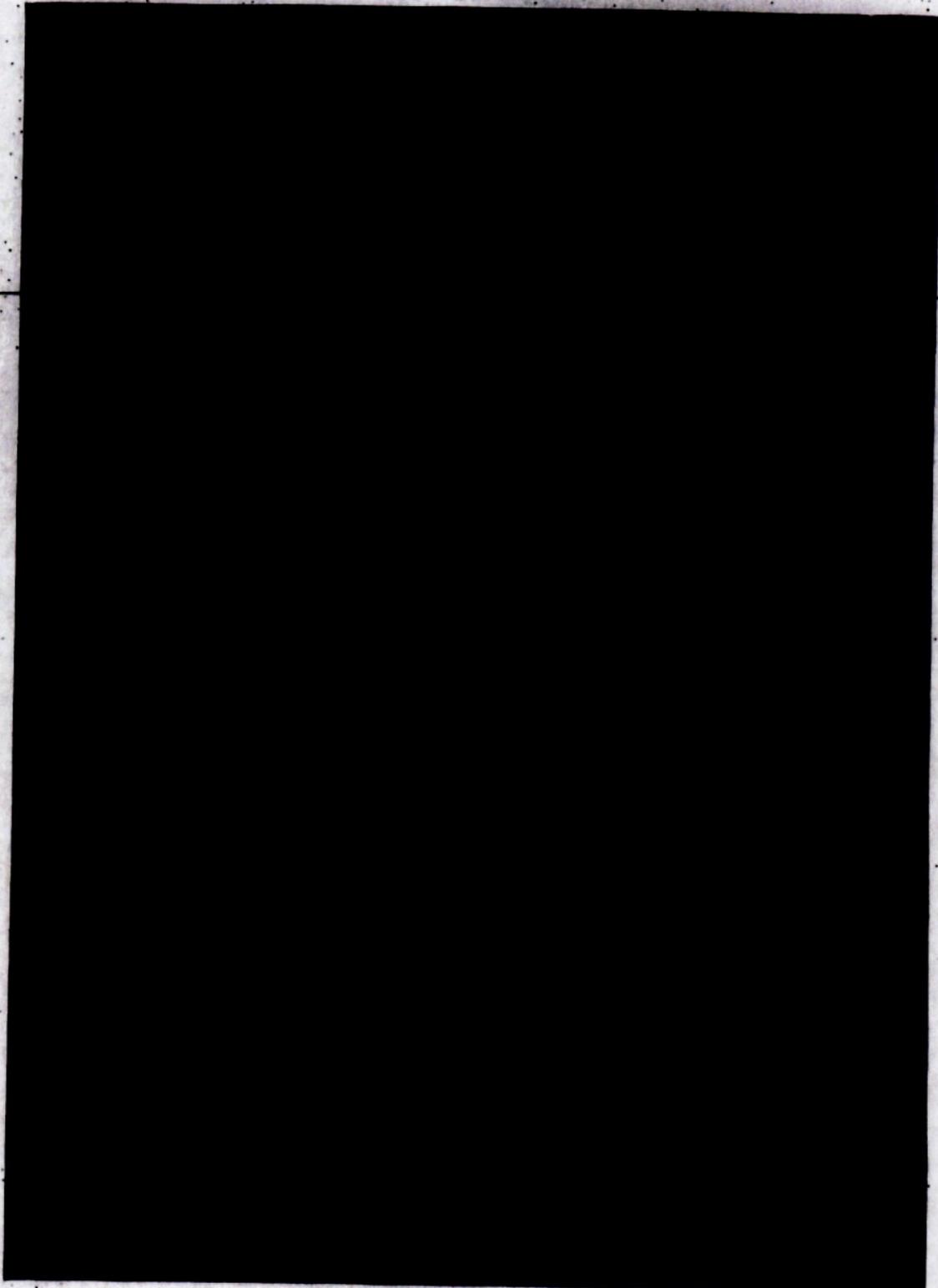


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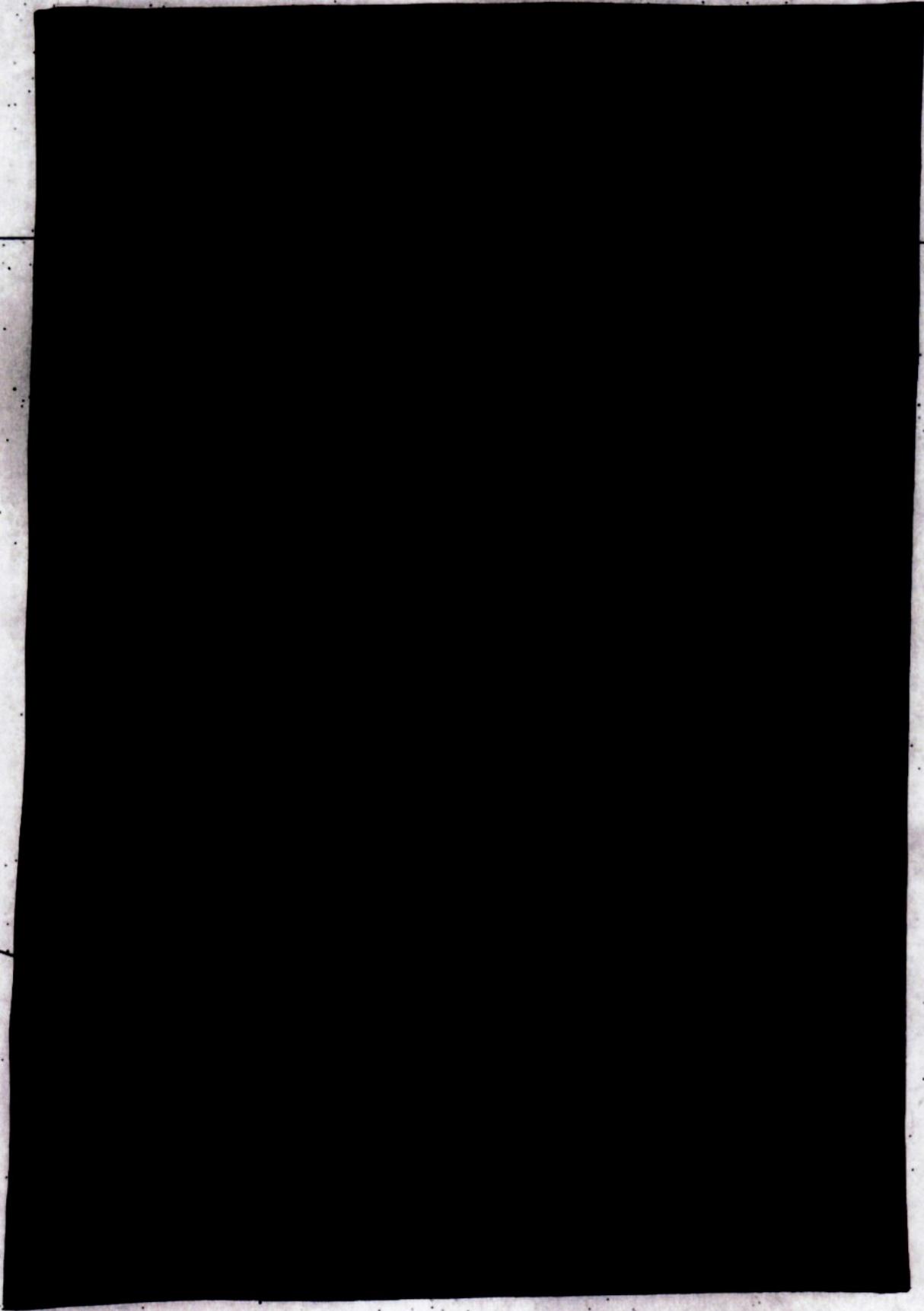
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JS Appeal 3.3(b)(8)  
NSC Appeal 3.3(b)(5)  
OSD Appeal 3.3(b)(8)



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NSC Appeal 3.3(b)(8)  
JS Appeal 3.3(b)(8)(9)  
OSD Appeal 3.3(b)(1)(b) + Section 6.2(a)  
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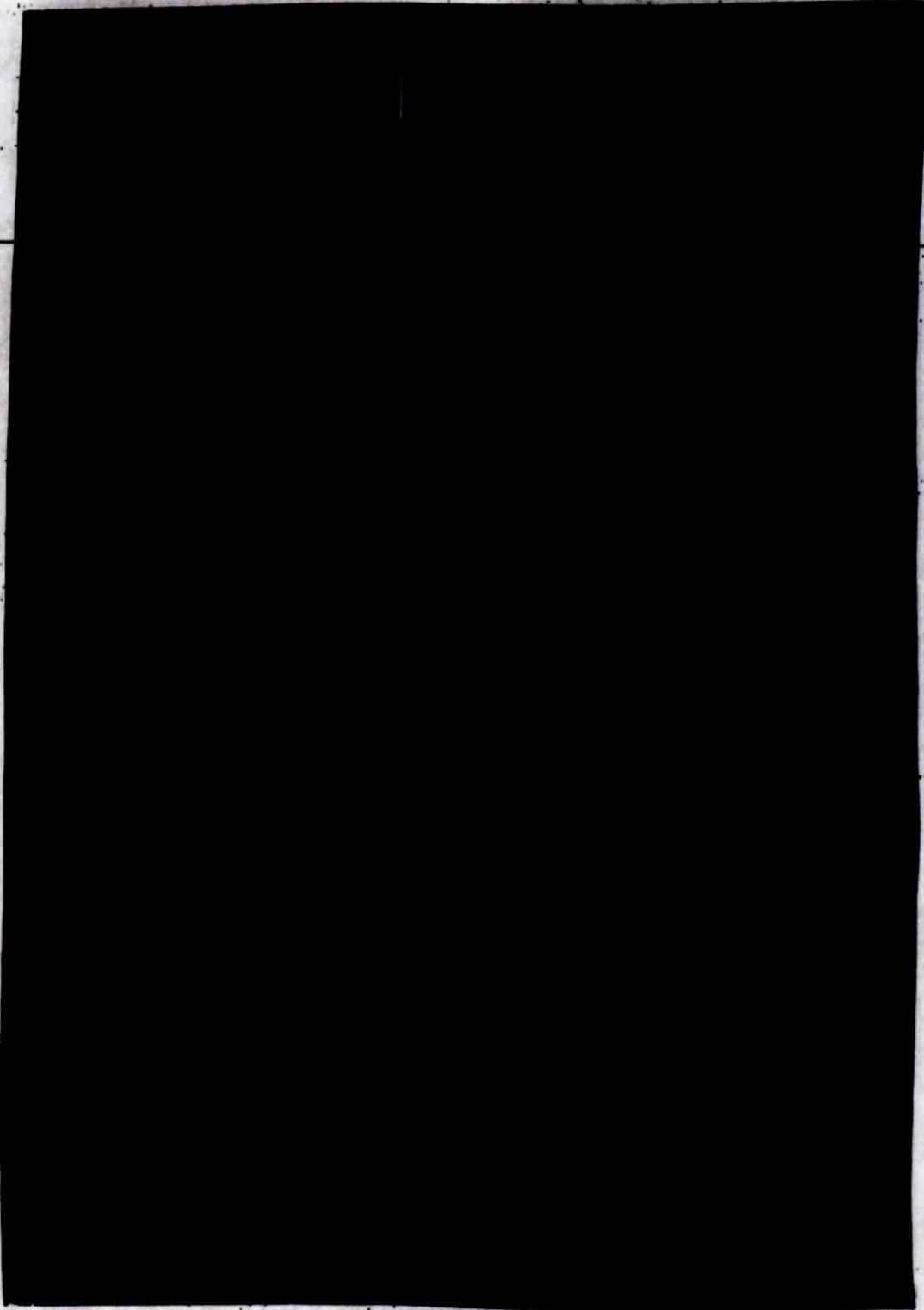


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JS Appeal 3.3(b)(5)(9)  
OSD Appeal 3.3(b)(1)(5)  
CIA Appeal DIF 3.3(b)(1) + FOIA § U.S.C. § 552(b)(3); SO U.S.C. § 403g



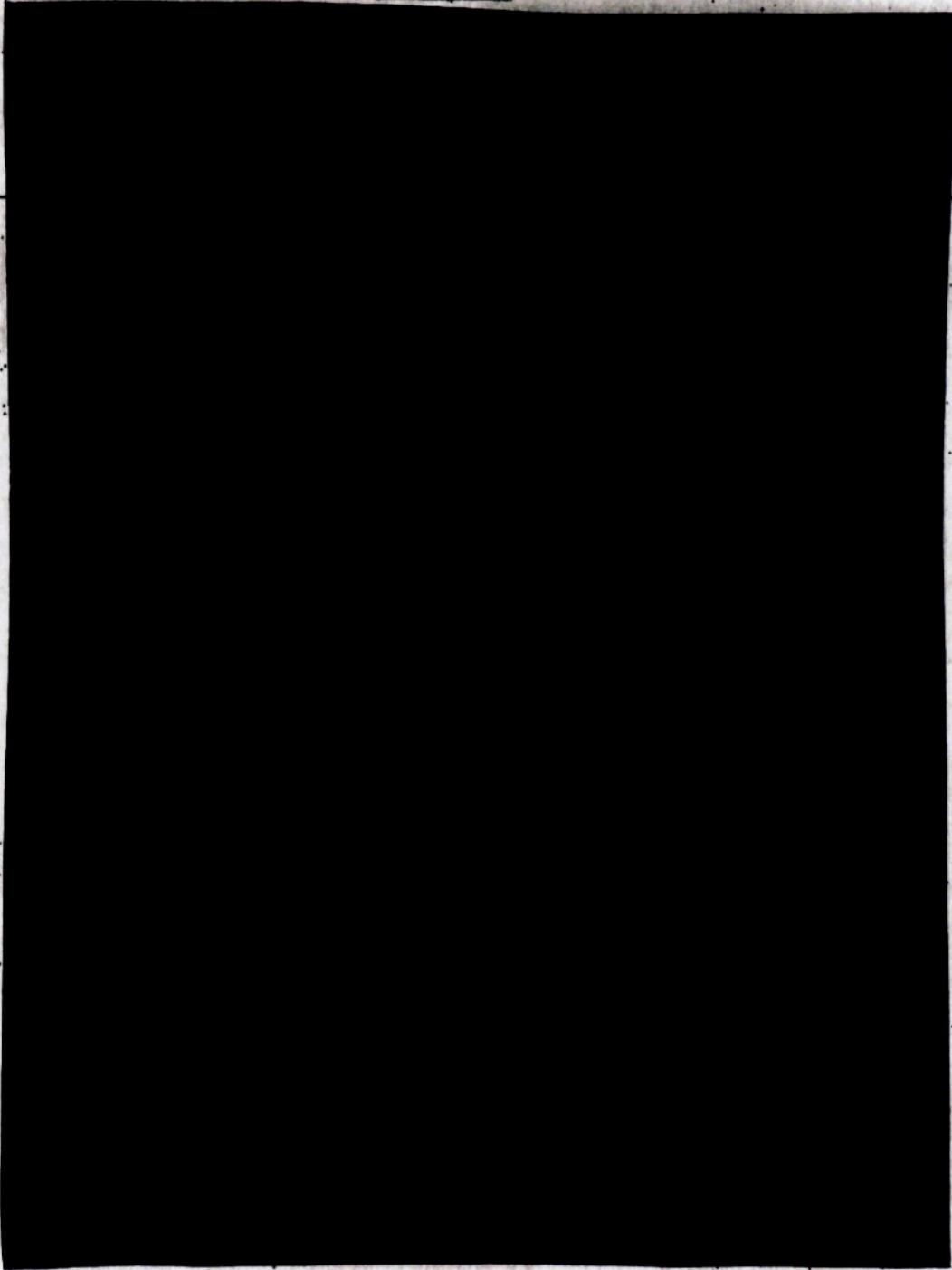
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FOOTNOTES

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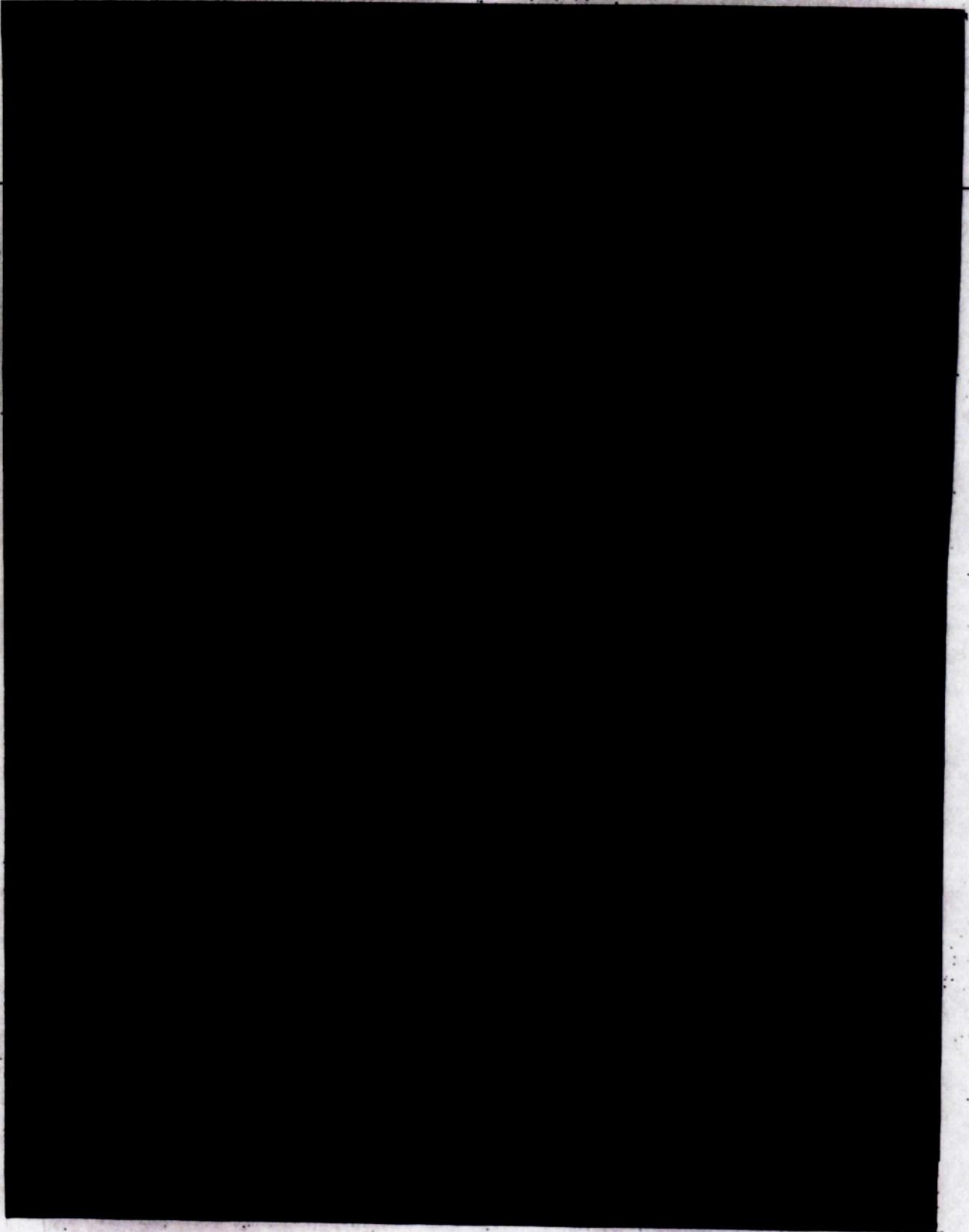


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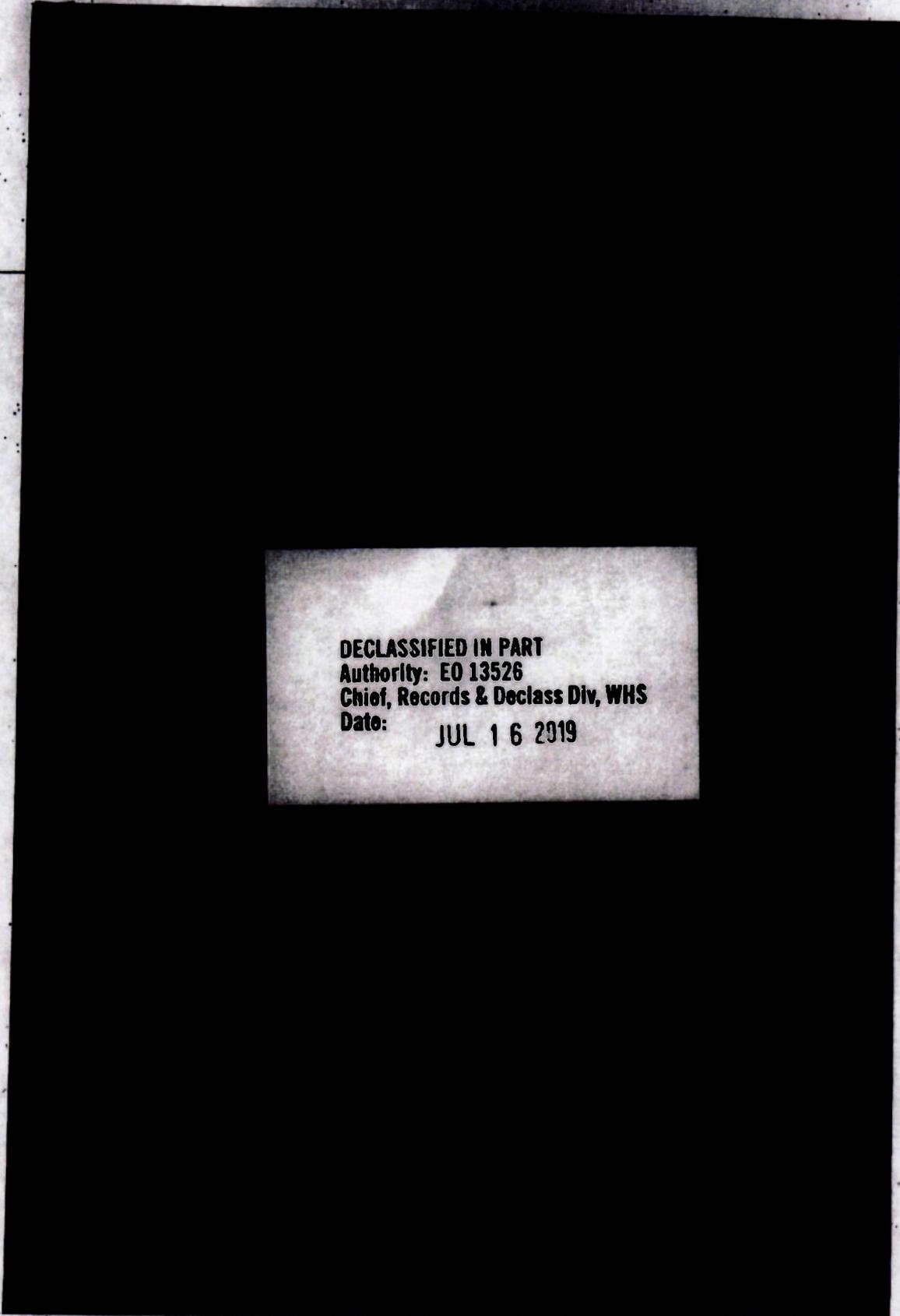
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Annex A - Capabilities and Limitations of the Current System



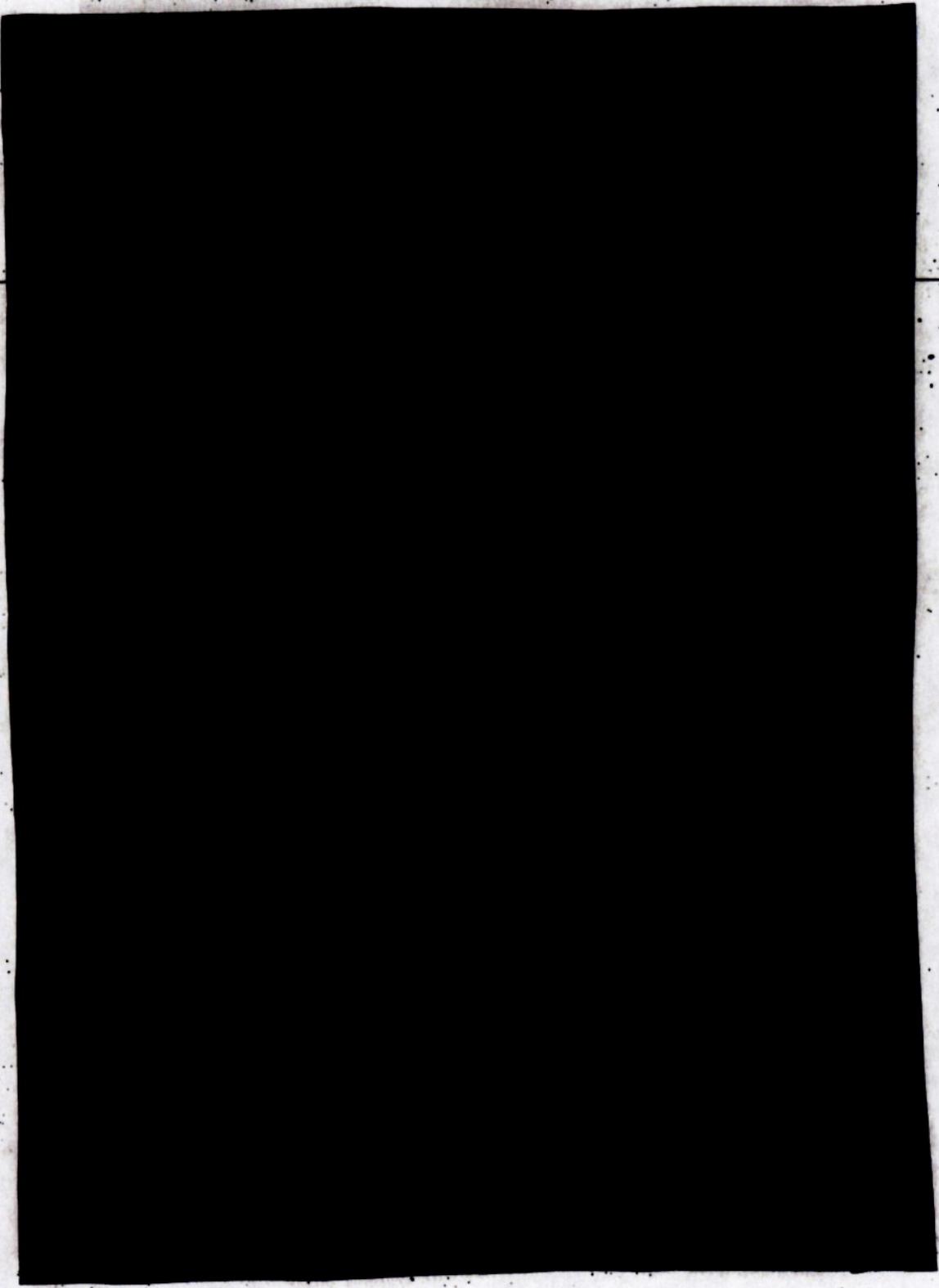
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JS Appeal 3.3(b)(5)(8)  
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OSD Appeal 3.3(b)(5)(8)  
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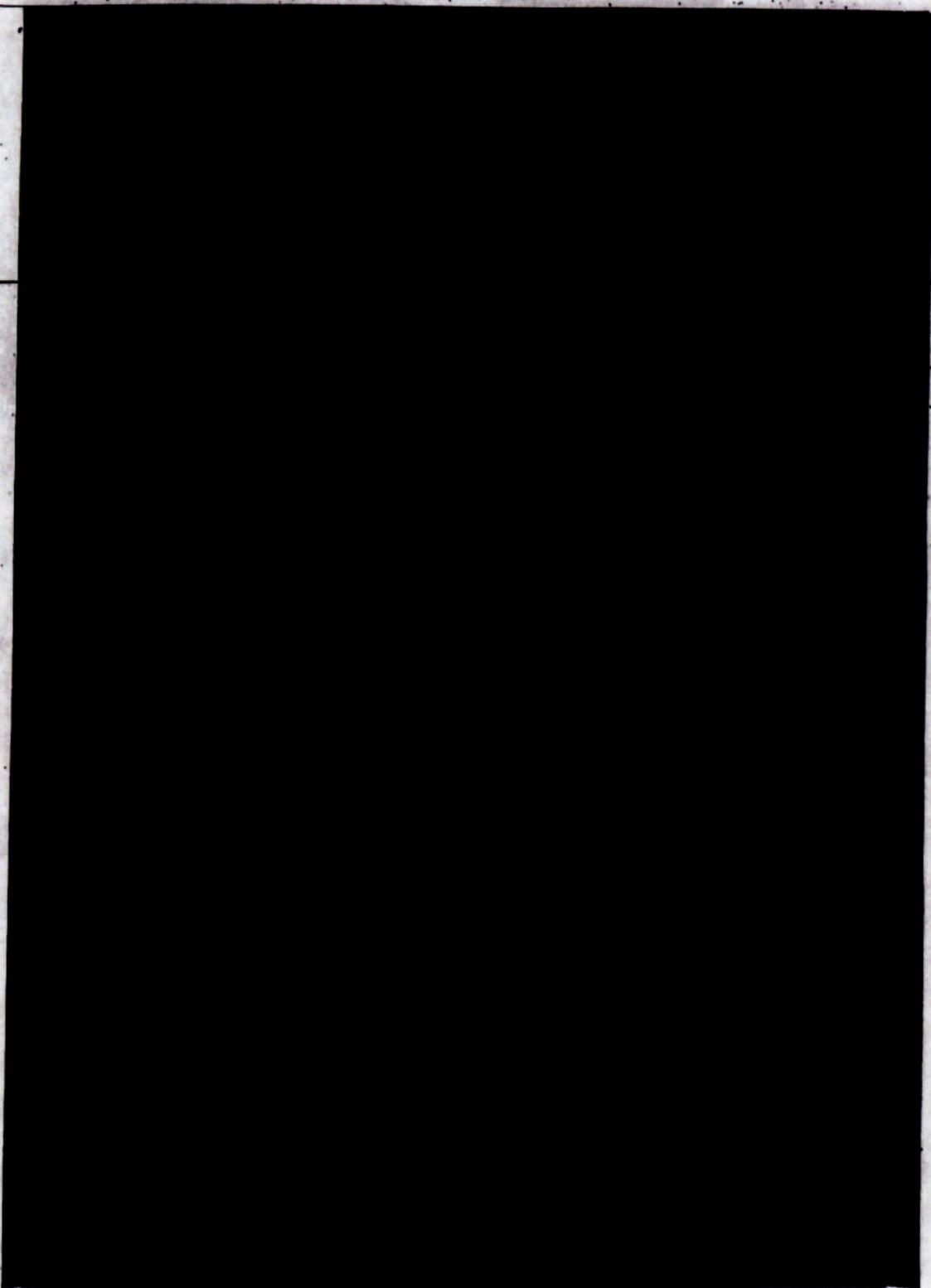
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JS Appeal 3.3(b)(5)(6)(8)

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OSD Appeal 3.3(b)(5)(8)  
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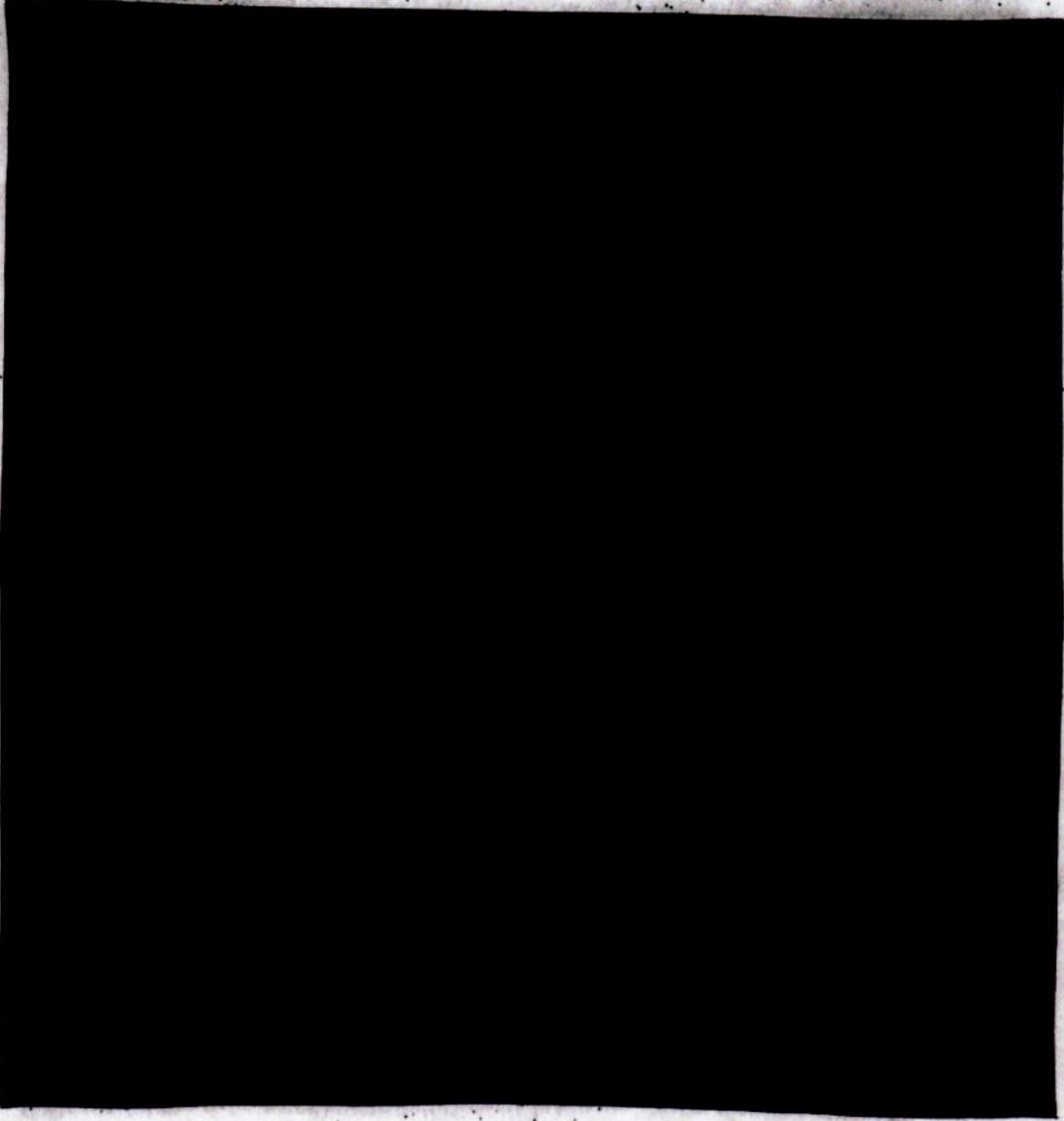
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n. SR-71

The SR-71 is a high speed, high altitude reconnaissance aircraft which could utilize a variety of sensors in obtaining estimates of USSR residual nuclear capability and damage following a massive exchange of nuclear weapons. Its pre-launch survivability is limited by the extent to which its dispersal bases are known and attacked. Its penetration capabilities following a SIOP attack would probably vary from poor to good depending upon the effectiveness of the US strike in suppressing USSR air defenses, ~~and whether it is tasked to reconnoiter defended areas.~~ The SR-71 must avoid SA-5 defended areas.



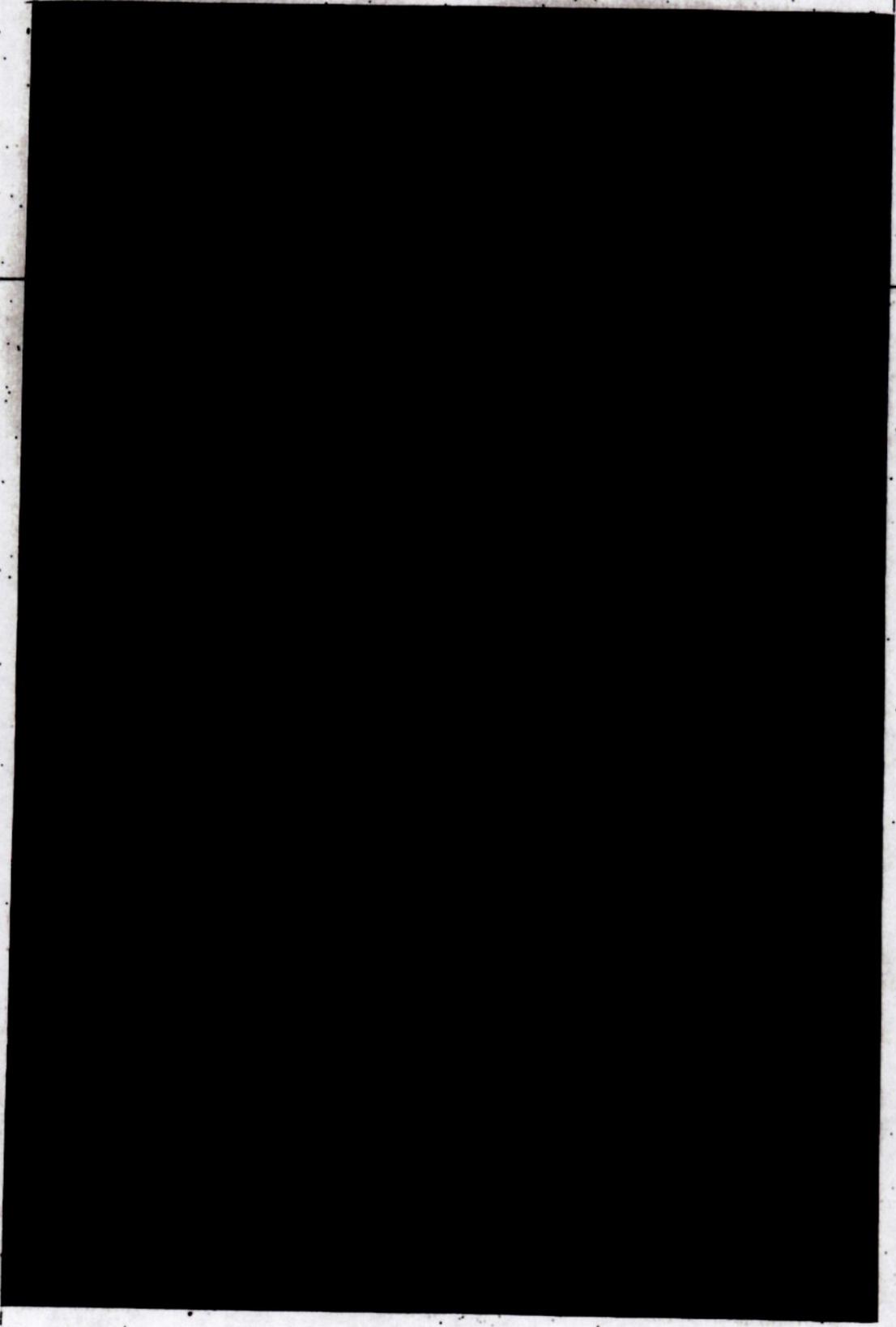
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JS Appeal 3.3(b)(5)(7)(8)

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11DC Appeal 3.3(b)(7)  
OSD Appeal 3.3(b)(8)  
JS Appeal 3.3(b)(5)(7)(8)

TABLE 1



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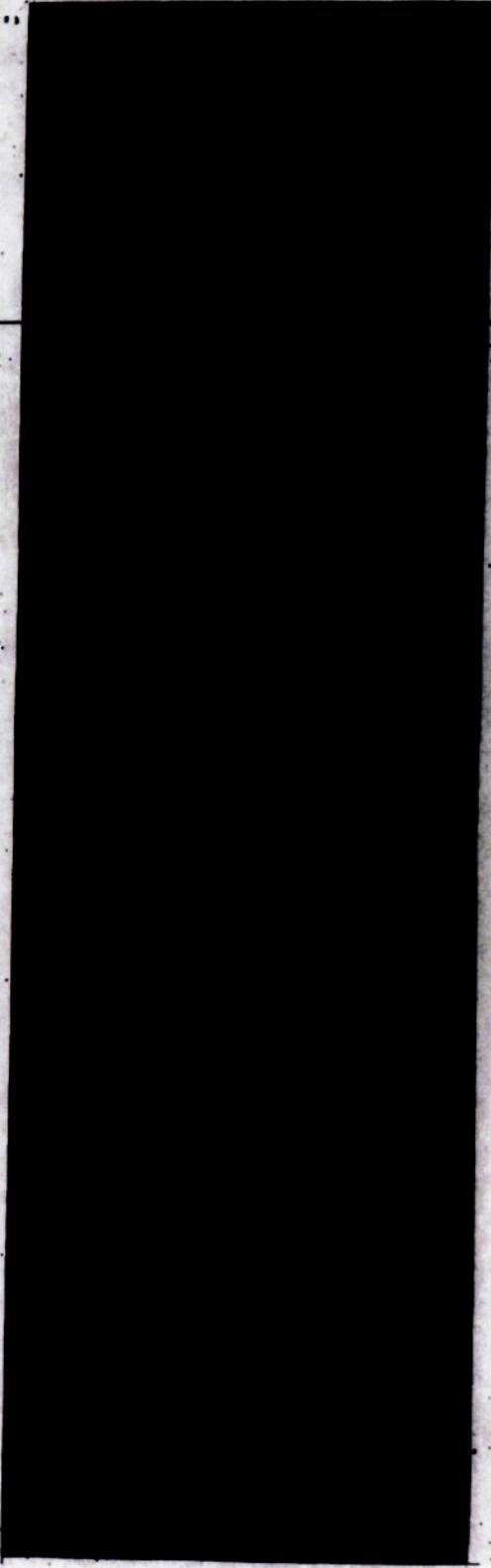


TABLE 1--Continued

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JS Appeal 3.3(b)(5)(6)(8)

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b. The NMCC and ANMCC.

[REDACTED]

2. Fixed Command Centers

a. Strategic Air Command Headquarters. CINCSAC

Headquarters at Offutt AFB is hardened to [REDACTED]  
In the event of loss of Offutt AFB in an attack, alternate  
command facilities are provided at the following locations to  
provide for continuity of wartime functions: [REDACTED]

[REDACTED]

b. Norad Cheyenne Mountain Complex (NMC).

[REDACTED]

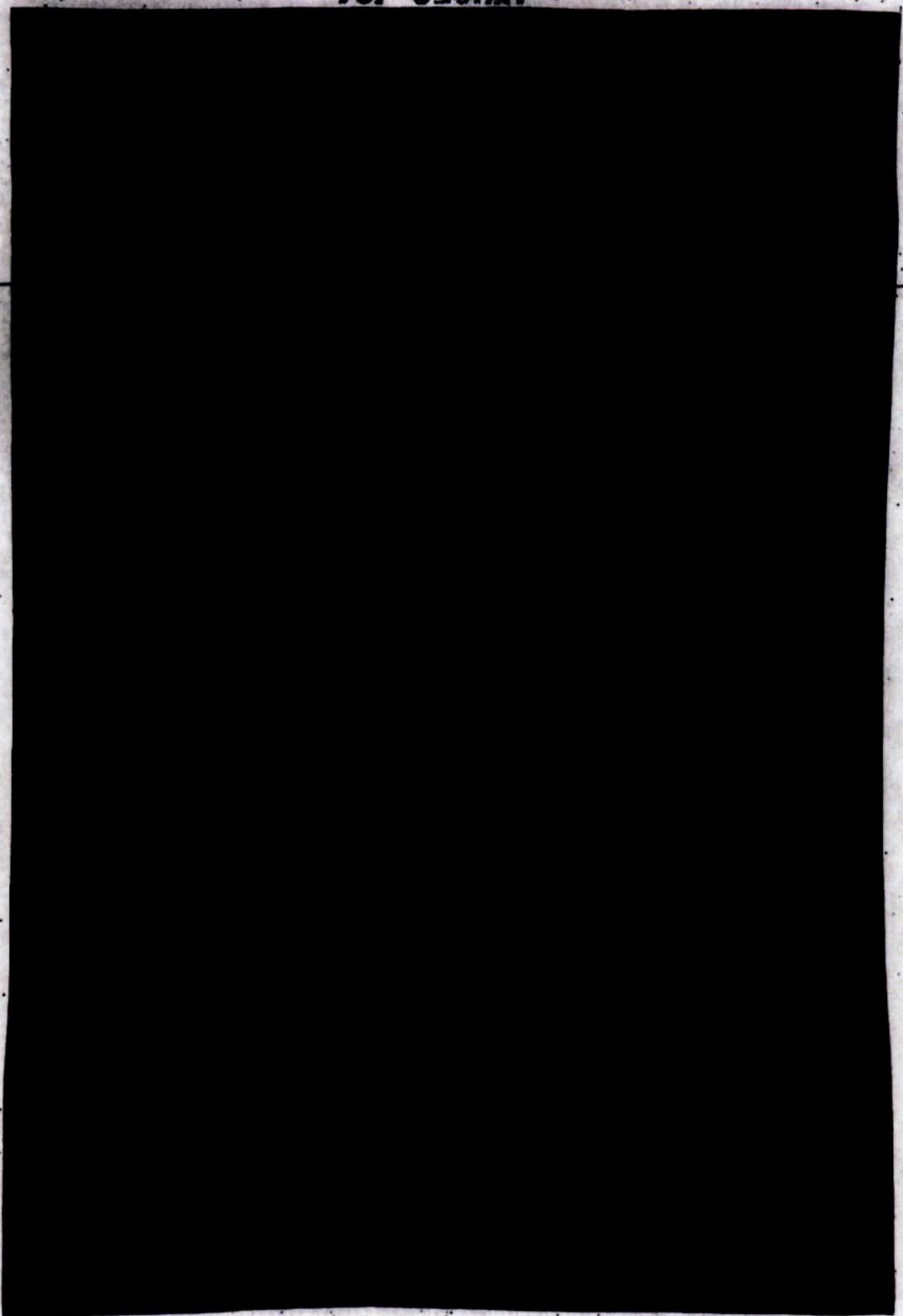
[REDACTED]

JS Appeal 3.3(b)(5)(8)  
NSC Appeal 3.3(b)(5)(8)  
OSD Appeal 3.3(b)(5)(8)

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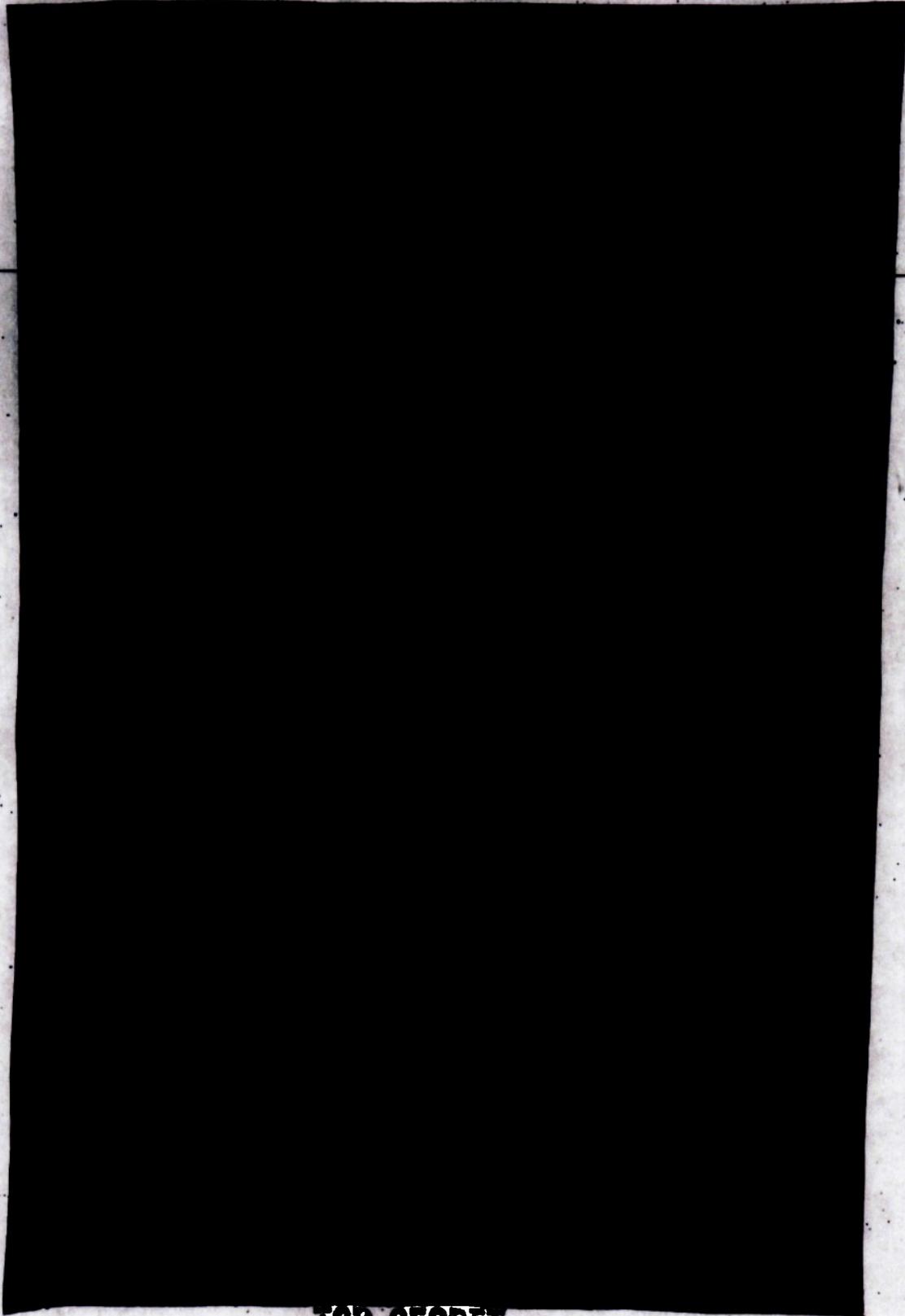
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JS Appeal 3.3(b)(5)(8)  
OSD Appeal 3.3(b)(5)(8)

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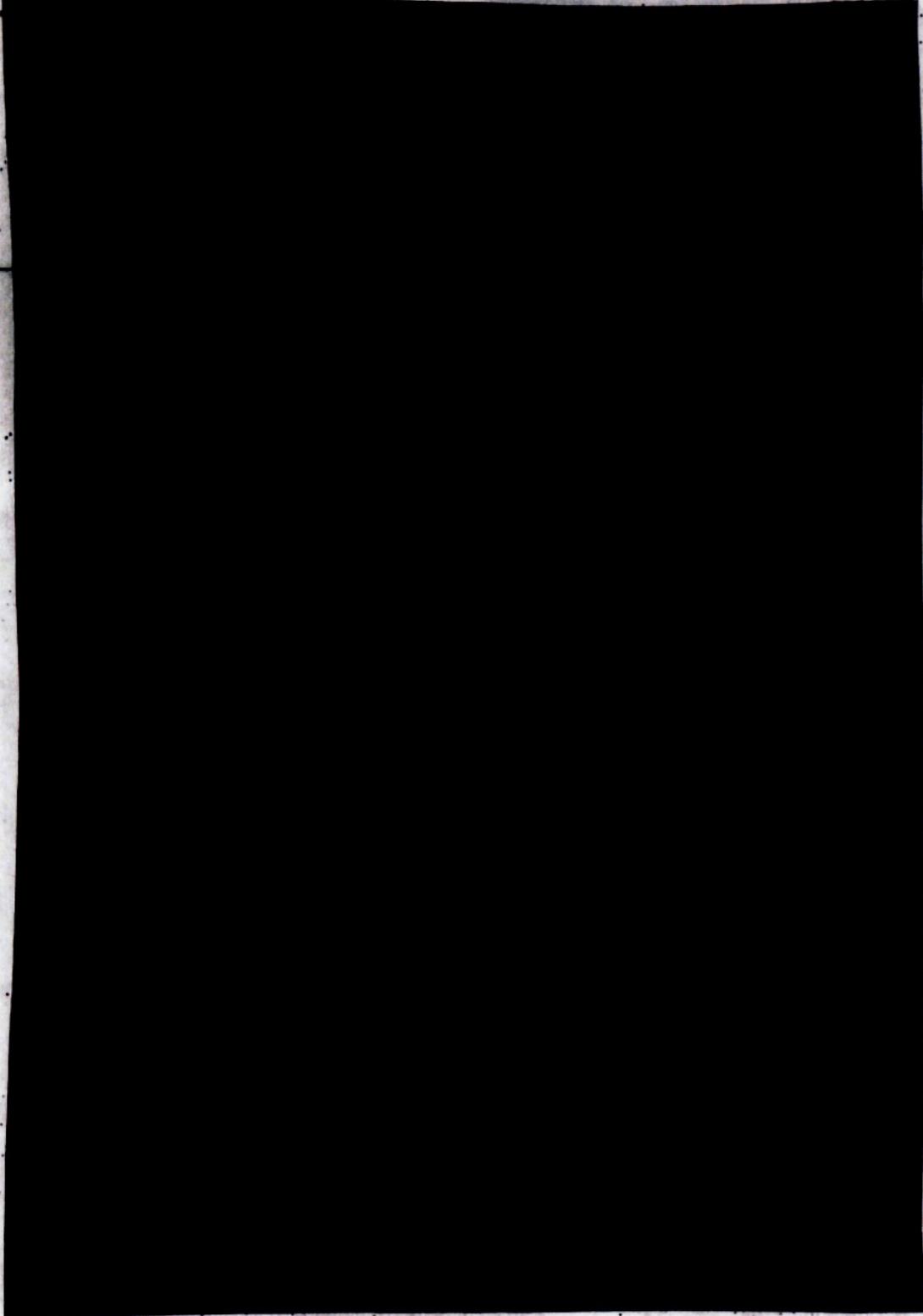
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NSC Appeal 3.3(b)(8)  
OSD Appeal 3.3(b)(5)(B)



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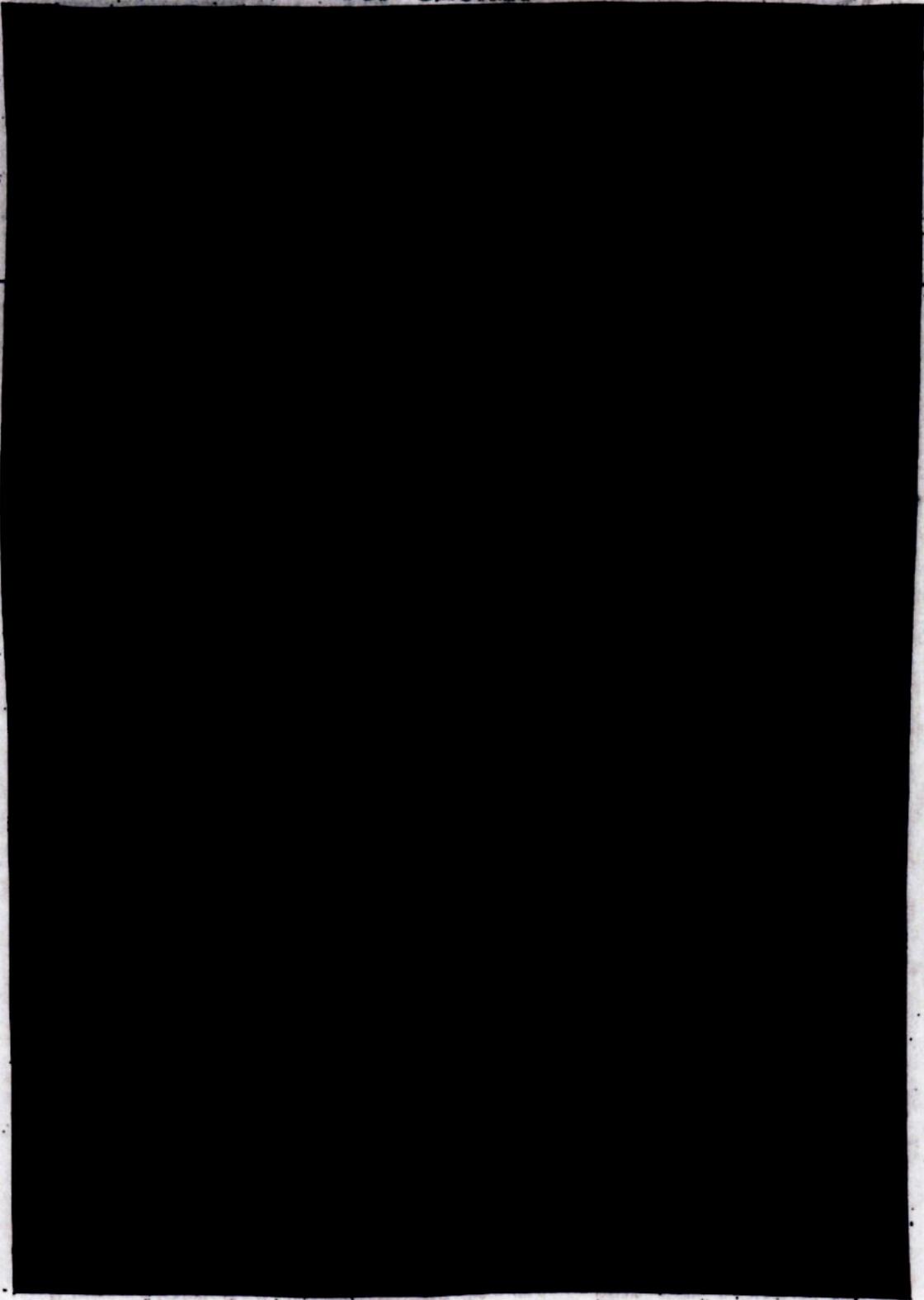


JS Appeal 3.3(b)(5)(B)  
NSC Appeal 3.3(b)(5)(B)  
OSD Appeal 3.3(b)(5)(B)

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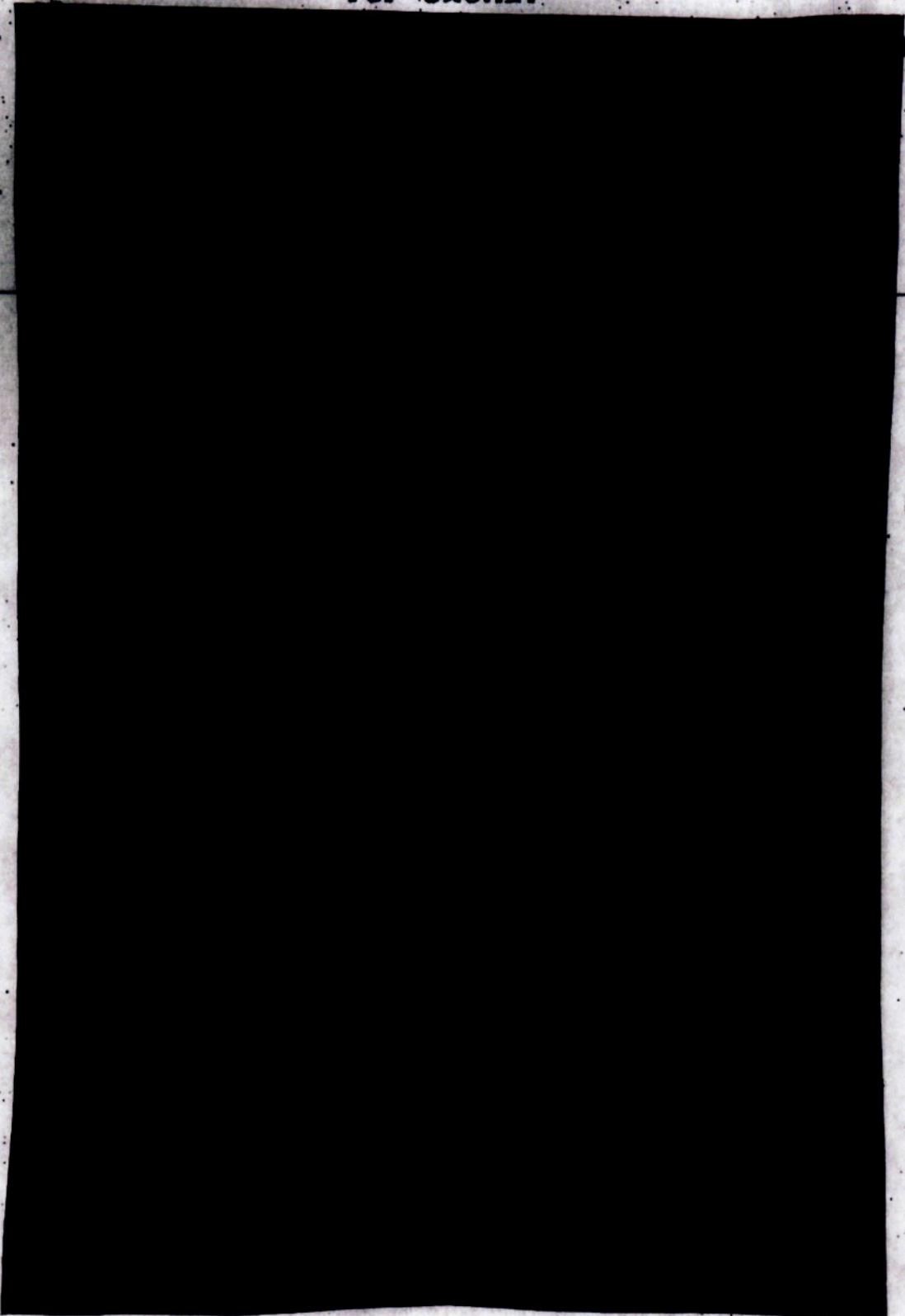


OSD Appeal 3.3(b)(8)  
JS Appeal 3.3(b)(5)(R)  
NSC Appeal 3.3(b)(5)(8)

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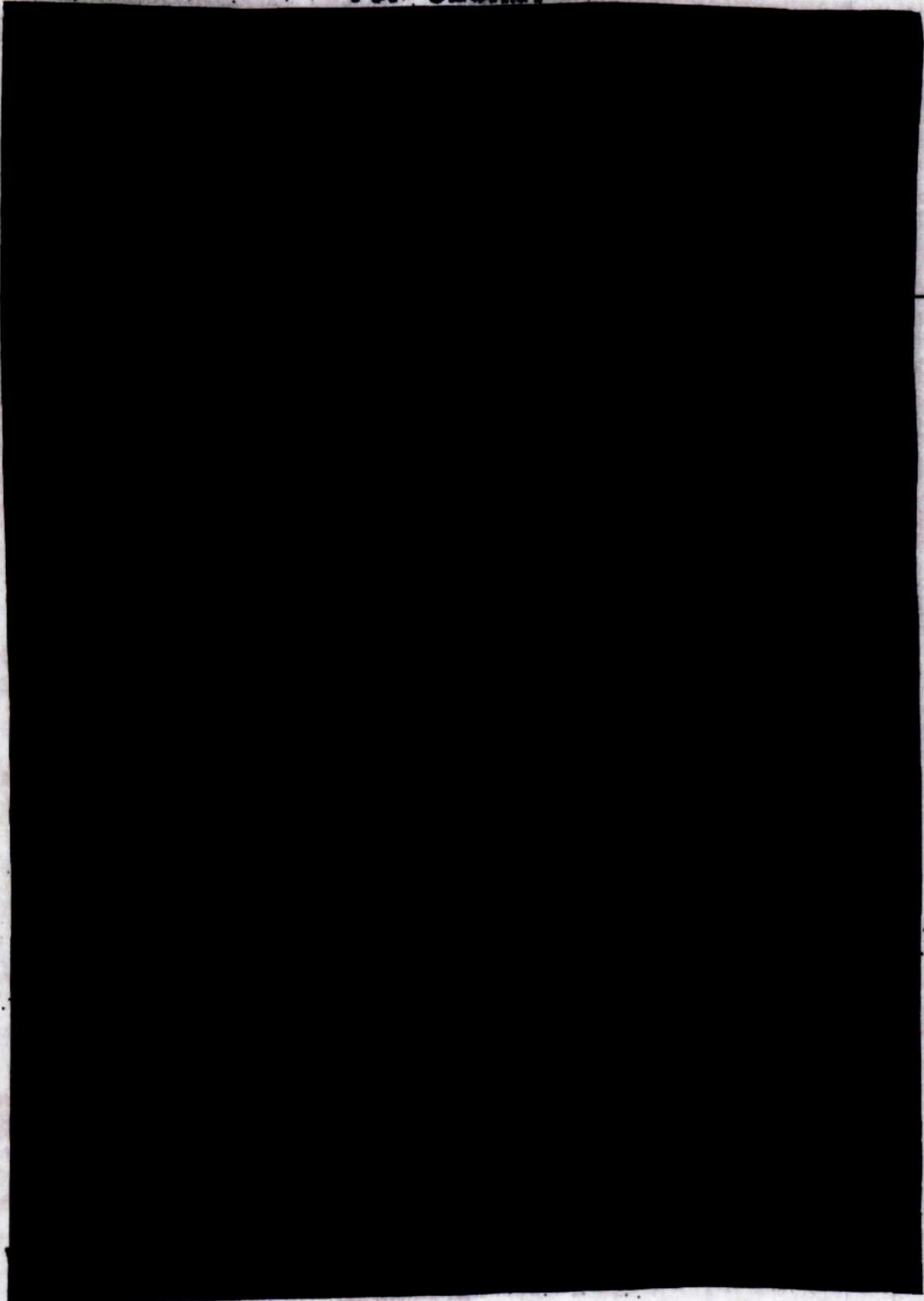


JS Appeal 3.3(b)(6)(8)  
NSC Appeal 3.3(b)(5)(8)  
OSD Appeal 3.3(b)(5)(8)

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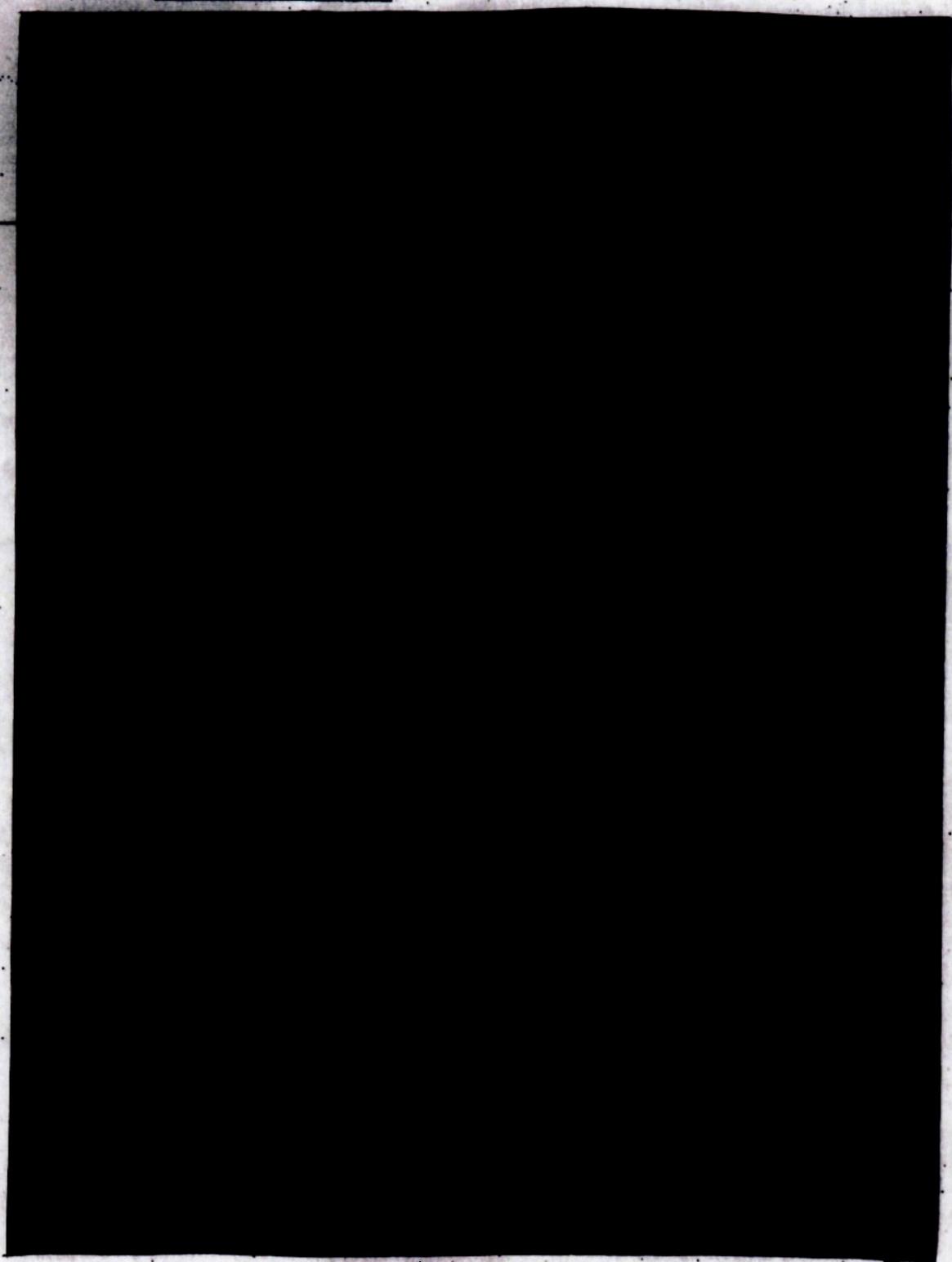
JS Appeal 3.3(b)(5)(8)  
NSC Appeal 3.3(b)(5)(8)  
OSD Appeal 3.3(b)(5)(8)

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C. Communications Nets



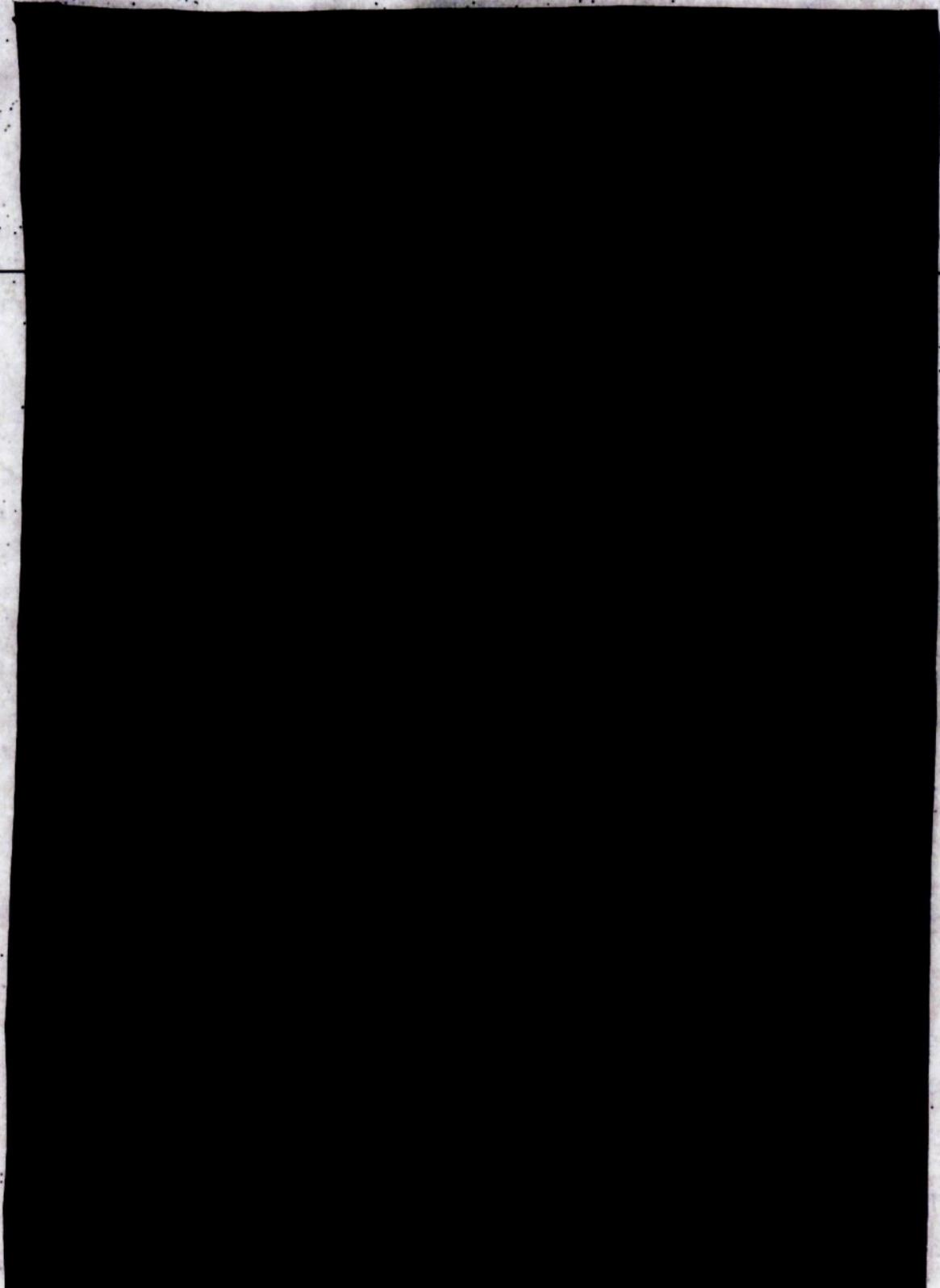
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JS Appeal 3.3(b)(5)(8)  
NSC Appeal 3.3(b)(5)(8)

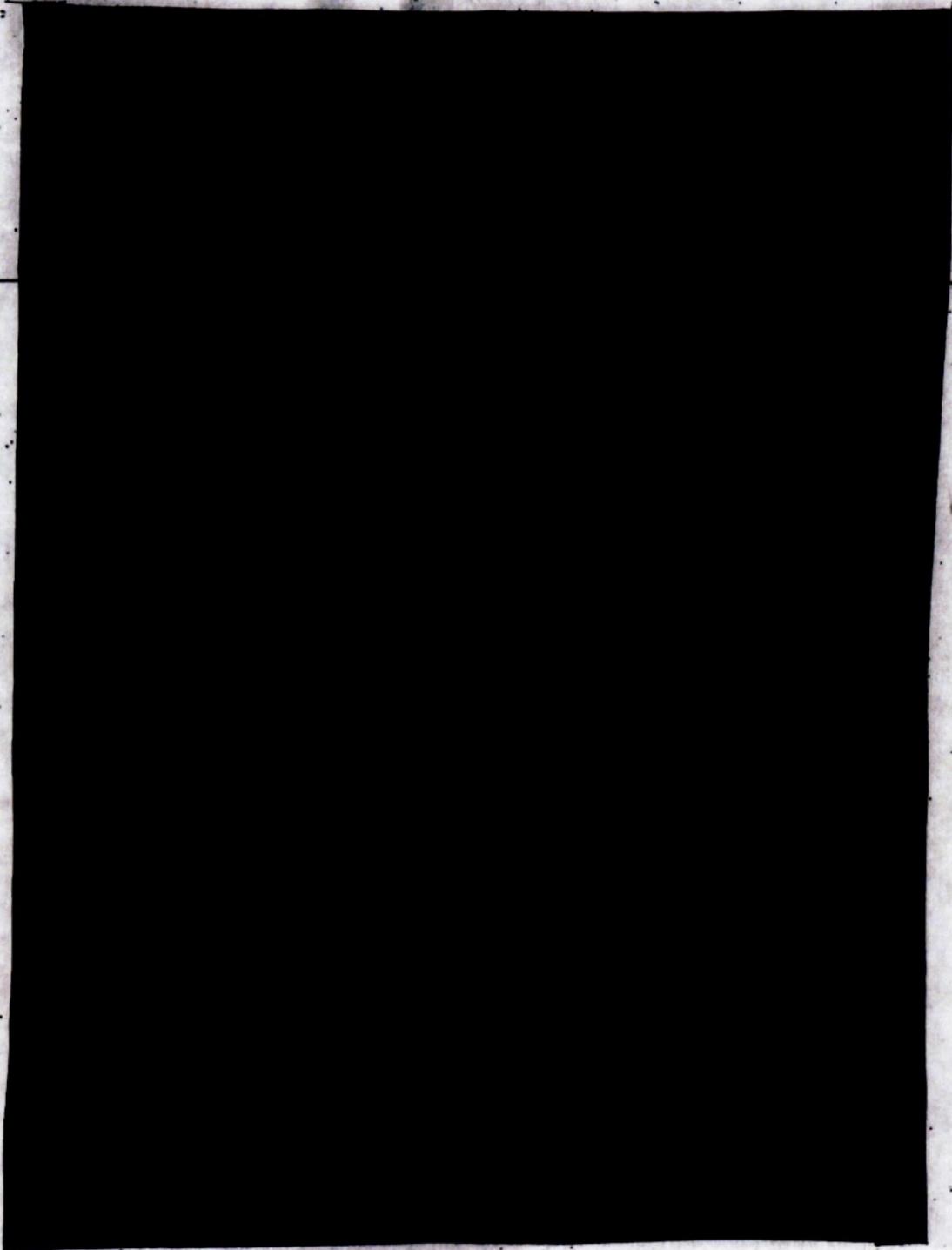
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JS Appeal 3.3(b)(8)  
NSC Appeal 3.3(b)(8)  
OSD Appeal 3.3(b)(8)

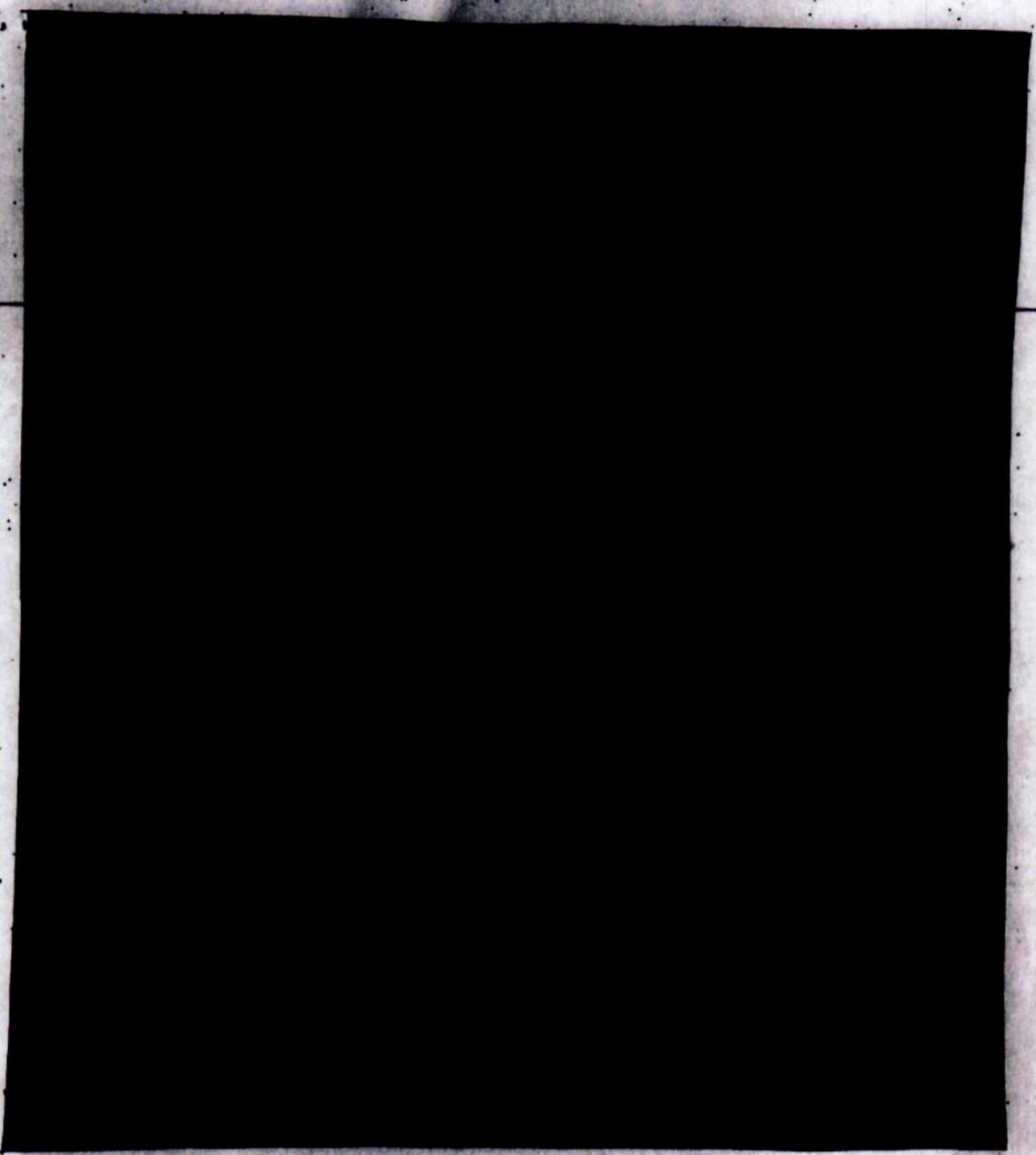
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JS Appeal 3.3(b)(8)  
OSD Appeal 3.3(b)(8)  
NSC Appeal 3.3(b)(s)(8)

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JS Appeal 3.3(b)(8)  
OSD Appeal 3.3(b)(8)  
NSC Appeal 3.3(b)(8)

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