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## Minilateralism in Nuclear Governance: Functional Adaptation or Normative Fragmentation?

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### ABSTRACT

*This article examines the growing role of Minilateralism in contemporary nuclear governance and assesses whether it constitutes an effective adaptation to multilateral stagnation or a source of deeper regime fragmentation. While the global nuclear order remains formally anchored in the Treaty on the Non-Proliferation of nuclear weapons, persistent legitimacy deficits, compliance asymmetries, and procedural paralysis have encouraged the rise of smaller, issue-specific coalitions. Using a qualitative comparative case study methodology, the article analyzes three prominent cases: the Joint Comprehensive Plan of Action, the Nuclear Suppliers Group, and AUKUS. The study applies an integrated theoretical framework combining neorealism, neoliberal institutionalism, and constructivism to evaluate minilateralism through three analytical dimensions: power, efficiency, and legitimacy. Findings indicate that minilateral arrangements often outperform universal forums in terms of speed, targeted coordination, and technical problem-solving. However, these gains are frequently offset by selective participation, concentrated authority, and inconsistent norm application, which weaken perceptions of fairness and erode the coherence of the broader non-proliferation regime. The article argues that minilateralism is neither a replacement for multilateral nuclear governance nor a purely benign supplement. Rather, it is producing a hybrid governance order in which universal institutions retain symbolic legitimacy while smaller coalitions increasingly exercise operational authority. This transformation carries significant implications for strategic stability, norm durability, and the future architecture of global nuclear governance.*

**Keywords:** Nuclear Governance; Non-Proliferation Regime; Regime Fragmentation; Strategic Competition; Global Nuclear Order; International Security

### Introduction

The contemporary global nuclear order remains anchored in the Treaty on the Non-Proliferation of nuclear weapons, which has functioned since 1970 as the central institutional framework governing non-proliferation, disarmament, and the peaceful use of nuclear energy. With near-universal membership, the NPT is frequently characterized as one of the most successful arms control regimes, having significantly constrained the horizontal spread of nuclear weapons despite widespread technological diffusion (Goddard et al., 2024; Sagan, 2011). From a neoliberal institutionalist perspective, the treaty exemplifies how international regimes can mitigate anarchy by establishing verification mechanisms, reducing uncertainty, and embedding norms of restraint into state behavior (Keohane, 1984). However, this apparent success coexists with an increasingly visible crisis of legitimacy, compliance, and normative coherence. At the structural level, the NPT institutionalizes a hierarchical order by recognizing five nuclear-weapon states while imposing non-proliferation obligations on all others. This asymmetry has generated persistent dissatisfaction among non-nuclear-weapon states, particularly in light of the limited progress toward disarmament under Article VI (Tannenwald, 2022). Recent scholarship

conceptualizes this condition as a “legitimacy deficit,” wherein the normative foundations of compliance are weakened by perceptions of inequality and selective enforcement (Goddard et al., 2024; Lantis, 2019). Consequently, the regime’s authority is increasingly contested, not because of a lack of formal rules, but due to the erosion of shared normative commitments that sustain those rules.

The crisis is further intensified by institutional stagnation within the NPT review process. The failure of recent review conferences to produce consensus outcome documents reflects deep geopolitical divisions and underscores the regime’s limited capacity for adaptive governance in a rapidly changing strategic environment (Hood, 2023; United Nations, 2022). These procedural failures are compounded by substantive challenges, including ongoing nuclear modernization by major powers, the persistence of vertical proliferation, and the emergence of alternative normative frameworks such as the Treaty on the Prohibition of nuclear weapons (TPNW) (Goddard et al., 2024). Collectively, these developments indicate a widening gap between normative commitments and actual state behavior, thereby weakening the credibility and effectiveness of the non-proliferation regime.

From a constructivist standpoint, these dynamics reflect a deeper process of norm contestation and erosion. The durability of the global nuclear order has historically depended not only on formal institutional arrangements but also on shared understandings of appropriate behavior, including the so-called nuclear taboo (Tannenwald, 2022). Yet, in the contemporary security environment, these norms are increasingly subject to reinterpretation and strategic manipulation. States selectively invoke or reinterpret non-proliferation principles in ways that align with their security interests, thereby undermining the universality and consistency of the regime (Lantis, 2019). This process of normative fragmentation highlights the contingent nature of international norms and their vulnerability to shifts in power and strategic context. It is within this broader context of institutional stagnation and normative dissonance that minilateralism has emerged as a significant feature of contemporary nuclear governance. Minilateralism refers to cooperative arrangements involving a limited number of states, typically those with the greatest capacity or stake in addressing a specific issue (Naim, 2009). In contrast to universal multilateral regimes, minilateral frameworks prioritize efficiency, flexibility, and targeted problem-solving. In the nuclear domain, such arrangements include the Nuclear Suppliers Group, the Joint Comprehensive Plan of Action, and the AUKUS. These mechanisms vary in scope and institutional design but share a common logic of selective cooperation among key actors.

The rise of minilateralism is driven by both functional and structural considerations. Functionally, smaller groupings reduce transaction costs, facilitate consensus-building, and enable more rapid decision-making compared to large, consensus-based multilateral forums (Patrick, 2015). This efficiency is particularly valuable in addressing urgent proliferation challenges, where delays can have significant security implications. Structurally, however, minilateralism reflects underlying power asymmetries within the international system, as major powers disproportionately shape the agenda, rules, and outcomes of such arrangements. From a neorealist perspective, minilateralism can, therefore, be understood as an instrument of power management, which allows dominant states to bypass the constraints of universal regimes and pursue their strategic interests more effectively (Mearsheimer, 2001). Empirically, minilateral arrangements have demonstrated both effectiveness and controversy in the nuclear domain. The Joint Comprehensive Plan of Action, for example, established a technically robust verification regime that significantly constrained Iran’s nuclear activities during its implementation phase, illustrating the capacity of minilateral diplomacy to deliver concrete outcomes (Fitzpatrick, 2018). Similarly, the Nuclear Suppliers Group has played a central role in regulating the transfer

of sensitive nuclear technologies, thereby reinforcing non-proliferation norms through coordinated export controls. These cases highlight the functional advantages of minilateralism in addressing specific challenges where broader multilateral mechanisms have proven ineffective.

At the same time, the selective and often exclusionary nature of minilateralism raises significant normative concerns. The differential treatment of states whether through exceptional waivers, selective enforcement, or strategic alignment undermines the principle of universality that underpins the NPT. Such practices contribute to perceptions of double standards, weakening the incentive structures that sustain compliance and increasing the risk of norm erosion (Goddard et al., 2024). In this sense, minilateralism may inadvertently contribute to what has been described as the “self-undermining” of the non-proliferation regime, wherein efforts to address specific challenges simultaneously weaken the broader normative framework.

The case of AUKUS further illustrates these tensions by introducing new ambiguities into the interpretation of non-proliferation obligations. By facilitating the transfer of nuclear propulsion technology to a non-nuclear-weapon state, AUKUS operates at the intersection of strategic necessity and normative constraint, raising questions about safeguards, precedent-setting, and the potential diffusion of sensitive technologies (Baldus et al., 2021). While proponents emphasize its strategic rationale in the context of great power competition, critics highlight its implications for the integrity of the non-proliferation regime. This duality underscores the broader challenge of maintaining normative coherence in a governance environment increasingly characterized by strategic competition and institutional fragmentation.

These developments give rise to a fundamental tension between efficiency and legitimacy in contemporary nuclear governance. On the one hand, minilateral arrangements offer a pragmatic response to the limitations of multilateralism, enabling more effective and timely action on specific issues. On the other hand, their proliferation risks fragmenting the normative and institutional coherence of the global non-proliferation regime. This tension raises critical questions about the evolving nature of nuclear governance: does minilateralism represent an adaptive evolution of the regime, or does it signify a deeper process of regime decay and normative fragmentation?

Accordingly, this study addresses two central research questions:

- 1- Does minilateralism strengthen or weaken the effectiveness of nuclear governance?
- 2- How does it affect the norms and compliance mechanisms that underpin the non-proliferation regime?

The central argument advanced here is that minilateralism constitutes a double-edged transformation: while it enhances efficiency by enabling targeted cooperation among key actors, it simultaneously undermines normative coherence by institutionalizing selectivity, reinforcing power asymmetries, and fragmenting universal principles. In doing so, it contributes to the emergence of a hybrid and stratified nuclear governance architecture characterized by overlapping institutional arrangements and differentiated layers of authority.

### **Literature Review**

The concept of international regimes occupies a central position in the study of global governance, particularly in issue areas such as nuclear non-proliferation where formal institutions, norms, and rule's structure state behavior. Regime theory, emerging from the neoliberal institutionalist tradition, conceptualizes regimes as “principles, norms, rules, and decision-making procedures around which actor expectations converge” (Krasner, 1982). This foundational definition underscores the role of regimes not merely as legal constructs but as social institutions that shape expectations, reduce uncertainty, and facilitate coordination

among states operating in an anarchic international system. Building on this foundation, Robert Keohane's work advances the argument that cooperation is possible under anarchy through the establishment of institutionalized frameworks that lower transaction costs, provide information, and create mechanisms for monitoring and enforcement (Keohane, 1984). In this view, regimes persist even in the absence of hegemonic leadership because they generate mutual benefits and stabilize expectations over time. Applied to nuclear governance, the non-proliferation regime centered on the NPT has historically functioned as such an institutional arrangement, embedding norms of restraint and providing verification mechanisms through organizations like the IAEA. However, contemporary scholarship has increasingly problematized the coherence and stability of regimes, particularly in the context of complex and overlapping institutional environments. The concept of regime complexes defined as loosely coupled sets of institutions governing a particular issue area has gained prominence as a more accurate representation of modern global governance (Keohane & Victor, 2011). In the nuclear domain, the regime complex includes not only the NPT but also export control regimes, bilateral agreements, and informal arrangements. Recent studies emphasize that such complexes are not inherently stable; rather, they are subject to endogenous processes of fragmentation, contestation, and institutional competition (Eilstrup-Sangiovanni, 2023). Indeed, recent empirical work demonstrates that the nuclear non-proliferation regime has evolved from a relatively integrated institutional structure into an increasingly fragmented system characterized by overlapping rules, competing authorities, and growing opportunities for "forum shopping" by states (Eilstrup-Sangiovanni, 2023). This fragmentation challenges earlier regime theory assumptions about coherence and raises questions about whether regimes can maintain their authority under conditions of institutional proliferation. Consequently, regime theory must be adapted to account for dynamic processes of institutional change, including the emergence of alternative governance arrangements such as minilateralism.

The literature on nuclear non-proliferation is deeply divided between perspectives emphasizing regime success and those highlighting its structural limitations and gradual decline. On one hand, proponents argue that the non-proliferation regime has been remarkably effective in limiting the spread of nuclear weapons. The relatively small number of nuclear-armed states, despite widespread technological capability, is often cited as evidence of the regime's success in shaping state preferences and constraining proliferation (Sagan, 2011). Institutional mechanisms such as safeguards, inspections, and export controls have contributed to a system of compliance that, while imperfect, has significantly reduced proliferation risks. On the other hand, a growing body of recent scholarship highlights the regime's inherent contradictions and emerging crisis. The nuclear non-proliferation regime is increasingly described as a "self-undermining" order, characterized by tensions between its liberal aspirations and its hierarchical structure (Goddard et al., 2024). While the regime exhibits a high degree of legalized institutionalism, it suffers from weak liberal embeddedness, meaning that its normative foundations particularly the principle of equality among states are inconsistently realized. This discrepancy has contributed to growing dissatisfaction among non-nuclear-weapon states and has intensified debates over fairness and legitimacy.

A central issue within this debate is the problem of selective enforcement and nuclear inequality. The differential treatment of states whether through exceptional agreements, uneven enforcement of rules, or strategic considerations has undermined the universality of the regime. For instance, the accommodation of certain states outside the NPT framework, contrasted with stringent enforcement measures against others, reinforces perceptions of double standards.

Such dynamics weaken the normative basis of compliance, as states may perceive the regime not as a neutral framework but as an instrument of power politics.

Moreover, recent research on regime complexity suggests that the proliferation of overlapping institutions has contributed to increasing contestation and declining coherence. As new institutions emerge ranging from informal export control regimes to alternative treaties—they often introduce competing rules and norms, thereby creating opportunities for states to shift between institutional venues in pursuit of their interests (Eilstrup-Sangiovanni, 2023). This process of regime shifting not only fragments authority but also reduces the effectiveness of existing institutions by undermining their centrality and legitimacy. Taken together, the literature suggests that while the nuclear non-proliferation regime retains significant institutional capacity, it is increasingly characterized by normative dissonance, institutional fragmentation, and declining legitimacy. These dynamics provide a critical backdrop for understanding the rise of alternative governance mechanisms, including minilateralism.

The concept of minilateralism has gained increasing prominence in the study of global governance as scholars seek to explain the shift away from universal multilateralism toward smaller, more flexible forms of cooperation. Moisés Naím (2009) famously defined minilateralism as the process of bringing together “the smallest possible number of countries needed to have the largest possible impact,” emphasizing efficiency and practicality as key advantages. This perspective reflects a broader critique of multilateral institutions, which are often characterized by decision-making paralysis, lowest-common-denominator outcomes, and difficulties in achieving consensus among diverse actors. Building on this efficiency argument, Stewart Patrick (2015) conceptualizes minilateralism as a pragmatic response to the limitations of traditional multilateralism, highlighting its capacity to facilitate rapid decision-making, reduce negotiation costs, and enable targeted cooperation among relevant actors. In this sense, minilateralism is not necessarily a rejection of multilateralism but rather an adaptive strategy designed to overcome its inefficiencies.

Recent scholarship further elaborates on the characteristics of minilateralism, identifying it as a form of informal governance involving small-group decision-making, flexible institutional arrangements, and issue-specific cooperation (Baldus et al., 2024). Importantly, minilateralism is often understood as relational its emergence and function are closely tied to the perceived effectiveness and legitimacy of existing multilateral institutions. When multilateral regimes are viewed as ineffective or illegitimate, states are more likely to pursue minilateral arrangements as alternative or supplementary governance mechanisms.

However, the literature also highlights significant critiques of minilateralism, particularly concerning its implications for legitimacy and inclusivity. By definition, minilateral arrangements involve selective participation, which can exclude affected stakeholders and undermine the principle of sovereign equality. This exclusionary character raises concerns about democratic deficit and accountability, as decisions made within small-group settings may lack broader acceptance among the international community. Furthermore, minilateralism is often associated with power asymmetries, as major powers are more likely to dominate these arrangements and shape their outcomes in line with their strategic interests. Empirical analyses of nuclear governance indicate that many minilateral initiatives are initiated and led by nuclear-weapon states, reinforcing hierarchical patterns of authority and control (Baldus et al., 2024). This dynamic aligns with realist expectations that powerful states will seek to create institutional arrangements that maximize their influence while minimizing constraints. Thus, while minilateralism offers clear functional advantages in terms of efficiency and flexibility, it also raises fundamental questions about legitimacy, accountability, and the equitable distribution of

authority in global governance. These tensions are particularly salient in the nuclear domain, where issues of security, sovereignty, and inequality are deeply intertwined.

Additionally, Constructivist scholarship provides a critical lens for understanding the normative dimensions of nuclear governance, emphasizing the role of ideas, identities, and social norms in shaping state behavior. A central contribution in this regard is the concept of the nuclear taboo, developed by Nina Tannenwald (2022), which refers to the normative prohibition against the use of nuclear weapons. This taboo has historically functioned as a powerful constraint on state behavior, complementing formal institutional mechanisms and reinforcing the legitimacy of the non-proliferation regime. However, recent analyses suggest that the nuclear taboo is under increasing strain. The modernization of nuclear arsenals, the resurgence of great power competition, and the normalization of nuclear rhetoric in strategic discourse have all contributed to the erosion of normative constraints. Tannenwald (2022) argues that while the taboo remains influential, it is no longer as robust or uncontested as it once was, raising concerns about the long-term stability of the nuclear order. Complementing this perspective, Jeffrey Lantis (2019) highlights the role of norm contestation in shaping the evolution of the non-proliferation regime. Rather than viewing norms as static and universally accepted, Lantis emphasizes their dynamic and contested nature, arguing that states actively reinterpret and renegotiate norms in response to changing strategic and political contexts. This process of contestation can lead to both the reinforcement and the erosion of norms, depending on how it unfolds.

In the context of minilateralism, norm contestation takes on particular significance. Minilateral arrangements often serve as sites of norm reinterpretation, where participating states develop new rules and practices that may diverge from established norms. While such processes can generate innovation and adaptation, they can also contribute to normative fragmentation by creating multiple, and sometimes conflicting, standards of behavior. Recent scholarship on regime complexity further reinforces this point, demonstrating how overlapping institutions and competing norms can lead to increasing rule conflict and declining coherence within governance systems (Eilstrup-Sangiovanni, 2023). As states navigate this complex normative landscape, the authority of any single regime is diminished, and compliance becomes more contingent and selective.

Despite the growing body of literature on regime theory, nuclear non-proliferation, minilateralism, and norm contestation, there remains a significant gap in the systematic integration of these perspectives. In particular, existing scholarship has not adequately conceptualized minilateralism as a transformative force within nuclear governance, capable of reshaping both institutional structures and normative frameworks. While studies have examined minilateralism as either a functional response to multilateral inefficiencies or as a symptom of regime fragmentation, few have explored its dual role as both an adaptive mechanism and a driver of normative change. Moreover, there is limited comparative analysis of how minilateral arrangements interact with existing regimes to produce new patterns of authority, compliance, and legitimacy. This gap is particularly significant given the increasing prominence of minilateralism in the nuclear domain and the broader shift toward complex, hybrid governance architectures. To address this gap, it requires a theoretically integrated and empirically grounded analysis that situates minilateralism within the evolving landscape of nuclear regime complexity, thereby advancing our understanding of its implications for the future of global nuclear governance.

### **Theoretical Framework**

This study adopts a theoretically eclectic framework to analyze the emergence and implications of minilateralism in nuclear governance. Given the complexity of contemporary nuclear order—

characterized by power asymmetries, institutional fragmentation, and normative contestation—no single theoretical paradigm sufficiently captures its dynamics. Accordingly, this framework integrates insights from neorealism, neoliberal institutionalism, and constructivism to provide a multidimensional explanation of minilateralism as both a functional and normative phenomenon. This synthesis enables a more comprehensive understanding of how power, efficiency, and legitimacy interact to shape governance outcomes.

#### **Neorealism: Power and Strategic Interests**

From a neorealist perspective, minilateralism is fundamentally driven by the distribution of material capabilities and the strategic interests of major powers. Neorealism posits that the anarchic structure of the international system compels states to prioritize survival, leading them to pursue power-maximizing strategies and maintain relative advantages over rivals (Mearsheimer, 2001). Within this framework, international institutions are not independent actors but instruments through which powerful states advance their interests. Minilateral arrangements, therefore, can be understood as strategic tools employed by great powers to circumvent the constraints of universal multilateral regimes. Large multilateral institutions often impose procedural and normative constraints that limit the autonomy of powerful states, particularly through consensus-based decision-making and legal obligations.

In contrast, minilateral frameworks allow dominant actors to exercise greater control over agenda-setting, rule formation, and implementation. As such, they reflect what neorealists describe as “institutional selectivity,” whereby powerful states design and utilize institutions that align with their strategic objectives (Grieco, 1996). Recent scholarship reinforces this interpretation by highlighting the role of geopolitical competition in shaping minilateral initiatives. For instance, the increasing salience of strategic rivalry particularly among major powers—has incentivized the formation of exclusive coalitions that can respond more effectively to security challenges (Goddard et al., 2024). In the nuclear domain, such arrangements often prioritize strategic stability and deterrence over normative consistency, thereby reinforcing hierarchical patterns of governance. Consequently, minilateralism reflects not only functional adaptation but also the persistence of power politics within institutional frameworks.

#### **Neoliberal Institutionalism: Efficiency and Cooperation**

In contrast to the neorealist emphasis on power, neoliberal institutionalism highlights the functional benefits of cooperation and the role of institutions in facilitating collective action under anarchy. According to this perspective, states are rational actors seeking to maximize absolute gains, and institutions can enhance cooperation by reducing transaction costs, providing information, and establishing credible commitments (Keohane, 1984). From this standpoint, minilateralism emerges as a pragmatic response to the inefficiencies of large-scale multilateralism. Universal regimes, while normatively inclusive, often suffer from decision-making paralysis due to the diversity of interests and the requirement for consensus. Minilateral arrangements, by contrast, involve a smaller number of actors with more aligned interests, enabling faster negotiation, more precise coordination, and more effective implementation (Patrick, 2015). This efficiency is particularly valuable in addressing complex and time-sensitive issues such as nuclear proliferation, where delays can have significant security implications.

Recent literature conceptualizes minilateralism as part of a broader shift toward “flexible institutionalism,” characterized by overlapping and issue-specific governance arrangements (Eilstrup-Sangiovanni, 2023). Within this framework, minilateral initiatives complement rather than replace multilateral regimes by filling functional gaps and providing targeted solutions. For example, export control regimes and negotiated agreements can address specific proliferation challenges that fall outside the scope or capacity of universal institutions. However, neoliberal

institutionalism also acknowledges potential limitations of unilateralism. While smaller groupings may enhance efficiency, they may also reduce transparency and accountability, particularly when operating outside formal institutional frameworks. As a result, the benefits of efficiency must be weighed against the risks of reduced legitimacy and inclusivity. This tension highlights the need to evaluate unilateralism not only in terms of its functional effectiveness but also in relation to its broader institutional consequences.

### **Constructivism: Norms, Legitimacy, and Identity**

Constructivist approaches provide a critical lens for understanding the normative dimensions of unilateralism, emphasizing the role of ideas, norms, and identities in shaping state behavior. Unlike materialist theories, constructivism posits that the international system is socially constructed, and that state interests are shaped by shared understandings of appropriate conduct (Wendt, 1999). Within the context of nuclear governance, norms such as non-proliferation and the nuclear taboo have historically played a central role in constraining state behavior and legitimizing institutional arrangements (Tannenwald, 2022). However, these norms are not static; they are subject to processes of contestation, reinterpretation, and transformation. Lantis (2019) argues that states actively engage in norm contestation, seeking to redefine the meaning and scope of non-proliferation principles in ways that align with their strategic and political objectives.

Unilateral arrangements serve as key sites of such normative processes. By operating outside universal frameworks, they create opportunities for participating states to develop alternative interpretations of norms and establish new standards of behavior. While this can facilitate innovation and adaptation, it can also contribute to normative fragmentation, as multiple and potentially conflicting norms coexist within the broader governance system. Recent scholarship on regime complexity underscores this dynamic, demonstrating how overlapping institutions and competing norms can weaken the authority of any single regime and make compliance more contingent and selective (Eilstrup-Sangiovanni, 2023). In this context, legitimacy becomes a critical variable, as the acceptance of rules depends not only on their formal validity but also on their perceived fairness and appropriateness. Unilateralism, by privileging certain actors and excluding others, may therefore undermine the legitimacy of the broader regime even as it enhances functional effectiveness.

### **Methodology**

This study employs a qualitative research methodology to investigate unilateralism as an emerging mode of governance within the contemporary nuclear non-proliferation order. Given that nuclear governance is shaped by the interaction of formal institutions, strategic bargaining, normative contestation, and asymmetrical power relations, a qualitative design is more appropriate than purely quantitative approaches. The objective is not to measure simple correlations, but to examine how and why unilateral arrangements operate, how they generate institutional outcomes, and how they reshape the broader normative architecture of the non-proliferation regime. In this sense, the methodological orientation is interpretive and explanatory, while remaining theoretically informed by analytical eclecticism. Furthermore, the study is structured around a comparative case study design, which is particularly suitable for examining complex governance arrangements embedded in distinct geopolitical contexts. Comparative case studies enable the researcher to preserve empirical depth while identifying broader patterns across cases. The analysis adopts a most-different systems logic by selecting cases that vary in institutional form, strategic purpose, and operational scope, yet share a common feature: each represents a unilateral response to perceived limitations of universal

multilateral mechanisms. This design allows the study to isolate common causal mechanisms associated with unilateral governance despite contextual variation.

Three cases are selected for detailed analysis: the Joint Comprehensive Plan of Action, the Nuclear Suppliers Group, and the AUKUS. The JCPOA represents a diplomatic unilateral arrangement aimed at constraining nuclear proliferation through negotiated restrictions and intrusive verification. It provides a critical case for assessing whether small-group diplomacy can produce effective yet durable governance outcomes. The NSG represents a regulatory form of unilateralism centered on export controls and technology denial, making it especially relevant for evaluating issues of selective enforcement, institutional legitimacy, and nuclear exceptionalism. AUKUS represents a contemporary strategic-technological arrangement involving the transfer of nuclear propulsion capability to a non-nuclear-weapon state, thereby offering an important case for examining norm reinterpretation, safeguards ambiguity, and the strategic instrumentalization of governance frameworks. Collectively, these cases capture diplomatic, regulatory, and strategic dimensions of unilateral nuclear governance. Therefore, the study relies on triangulated qualitative data to strengthen empirical rigor. Primary sources include official treaty texts, communiqués, policy statements, safeguards reports issued by the International Atomic Energy Agency (IAEA), NSG guidelines, and publicly available strategic documents related to AUKUS. These materials are supplemented by secondary sources such as peer-reviewed academic literature, monographs, and policy analyses produced by institutions including SIPRI, the Carnegie Endowment for International Peace, and the International Institute for Strategic Studies. Triangulation across documentary and scholarly sources enhances reliability by reducing dependence on single-source narratives and allows competing interpretations to be critically assessed.

### **Case Studies**

The empirical analysis of unilateralism in nuclear governance is advanced through three strategically selected case studies: the Joint Comprehensive Plan of Action, the Nuclear Suppliers Group, and the AUKUS. These cases represent distinct forms of unilateral governance—diplomatic, regulatory, and strategic-technological—and collectively illustrate the dual character of unilateralism as both a functional adaptation and a source of normative fragmentation. Each case is evaluated through the analytical dimensions of efficiency, legitimacy, and compliance.

#### **Joint Comprehensive Plan of Action (JCPOA)**

The JCPOA represents one of the most sophisticated examples of diplomatic unilateralism in the nuclear domain. Negotiated in 2015 between Iran and the P5+1 (China, France, Germany, Russia, the United Kingdom, and the United States), the agreement was designed to constrain Iran's nuclear program in exchange for sanctions relief. Its most significant strength lay in its highly intrusive and technically robust verification architecture administered by the International Atomic Energy Agency (IAEA). The agreement-imposed restrictions on uranium enrichment levels, stockpile size, centrifuge deployment, and reactor redesign, while granting inspectors enhanced monitoring access (Fitzpatrick, 2018).

From an institutionalist perspective, the JCPOA demonstrated how limited-group diplomacy could overcome the paralysis of broader multilateral forums by concentrating negotiations among key stakeholders with sufficient leverage and technical expertise. During its implementation phase, IAEA reports repeatedly verified Iranian compliance with core commitments, suggesting that the arrangement was operationally effective in reducing immediate proliferation risks (IAEA, 2019). In this sense, the JCPOA validated the efficiency logic of unilateralism by producing measurable non-proliferation outcomes where universal mechanisms had stalled.

However, the agreement also exposed the fragility of minilateral arrangements lacking deeper domestic and international institutionalization. The unilateral withdrawal of the United States in 2018, followed by the reimposition of sanctions, significantly weakened the agreement and triggered reciprocal Iranian non-compliance. Scholars note that the collapse of the JCPOA reflected not technical failure, but political vulnerability rooted in leadership change and the absence of durable bipartisan support within the United States (Nephew, 2021). Thus, the JCPOA may be characterized as effective but unstable: highly capable in technical terms, yet insufficiently resilient to geopolitical shocks.

### **Nuclear Suppliers Group (NSG)**

The Nuclear Suppliers Group represents a regulatory form of minilateralism centered on export controls and technology governance. Established in response to India's 1974 nuclear test, the NSG seeks to prevent the transfer of nuclear materials and dual-use technologies that could contribute to weapons programs. Its informal structure, consensus-based decision-making, and concentration of technologically advanced supplier states make it a paradigmatic minilateral institution operating alongside the NPT framework. The NSG has played a proactive role in strengthening the global non-proliferation architecture by harmonizing export standards and constraining illicit procurement networks. From a functional standpoint, it has enhanced coordination among supplier states and reduced loopholes in sensitive technology transfers (Hibbs, 2020). In this regard, the NSG demonstrates how smaller, specialized coalitions can deliver governance outcomes that formal universal treaties cannot easily operationalize.

Yet the legitimacy of the NSG has been sharply contested, particularly following the 2008 India-specific waiver that permitted civilian nuclear trade with India despite its status as a non-signatory to the NPT. Supporters framed the decision as a pragmatic recognition of India's responsible nuclear record and growing strategic significance. Critics, however, argued that the waiver institutionalized selective legitimacy by rewarding a state outside the core treaty framework while maintaining restrictions on others (Mistry, 2014). The decision thus weakened the normative consistency of the broader regime by signaling that geopolitical value could outweigh formal adherence to non-proliferation norms. Therefore, Constructivist analyses suggest that such exceptionalism contributes to rule reinterpretation and norm erosion, particularly among states that perceive unequal treatment. The NSG case therefore illustrates the tension between strategic pragmatism and universal principle. Its core finding is one of norm inconsistency: while effective as an export control mechanism, its selective application has undermined perceptions of fairness and regime impartiality.

### **AUKUS**

AUKUS, announced in 2021 by Australia, the United Kingdom, and the United States, represents a strategic minilateral arrangement with significant nuclear governance implications. Its most consequential element is the transfer of nuclear-powered submarine capability to Australia, a non-nuclear-weapon state under the NPT. Although naval propulsion reactors are not equivalent to nuclear weapons programs, the arrangement introduces unprecedented challenges regarding safeguards, fissile material accounting, and precedent-setting behavior (Acton, 2022). From a neorealist perspective, AUKUS is best understood as a strategic balancing coalition designed to counter China's growing maritime and military influence in the Indo-Pacific. Its emergence reflects how minilateralism can function as a geopolitical instrument through which major powers coordinate defense capabilities outside slower multilateral institutions. In this respect, AUKUS reinforces the power-centric logic of minilateral governance.

However, the arrangement has generated concern among non-proliferation scholars and several states regarding the potential weakening of safeguards norms. Naval nuclear propulsion creates

a legal grey area under existing IAEA arrangements because fissile material used in submarines may be temporarily removed from standard inspection procedures. Although Australia is widely regarded as a compliant and trusted actor, critics warn that the precedent could be invoked by less transparent states seeking similar exemptions (Miller, 2023). Normatively, AUKUS also deepens perceptions of unequal rule application. While some states face intense scrutiny over sensitive fuel-cycle activities, a close U.S. ally is being granted access to highly sensitive nuclear technology. This asymmetry reinforces claims that strategic alignment, rather than universal legal principle, increasingly determines governance outcomes. Consequently, AUKUS can be understood as a power-driven exception: strategically rational from a balance-of-power perspective, but problematic for the coherence of the non-proliferation regime.

### **Comparative Analysis**

The comparative assessment of the Joint Comprehensive Plan of Action, Nuclear Suppliers Group, and AUKUS reveals a consistent structural pattern: minilateralism tends to generate higher levels of operational efficiency than universal multilateral arrangements, but this efficiency is frequently accompanied by contested legitimacy, weakened normative consistency, and concentrated distributions of authority. These findings suggest that contemporary nuclear governance is undergoing a transformation away from universal rule-based multilateralism toward a more selective and hierarchical order structured by capability, strategic relevance, and political alignment.

### **Efficiency: High Functional Performance**

Across all three cases, minilateral arrangements displayed clear advantages in terms of efficiency. Smaller negotiating groups reduce transaction costs, narrow bargaining agendas, and facilitate decision-making among actors with direct stakes in the issue. The JCPOA illustrates this dynamic most clearly. Rather than relying on the unwieldy consensus procedures of broader multilateral forums, the P5+1 framework concentrated negotiations among actors possessing sanctions leverage, diplomatic influence, and technical expertise. This structure enabled the production of a highly detailed agreement with intrusive verification provisions and measurable non-proliferation outcomes (Fitzpatrick, 2018).

Similarly, the NSG has often acted more swiftly than treaty-based institutions in adapting export control lists, sharing procurement intelligence, and harmonizing supplier standards. Its informal and flexible character has allowed technologically advanced states to coordinate controls without the procedural burdens of universal treaty amendment processes (Hibbs, 2020). AUKUS likewise demonstrates how strategic minilateralism can rapidly generate defense-industrial cooperation in response to changing geopolitical conditions. Therefore, it aligns with neoliberal institutionalist claim that smaller institutions can improve collective action by reducing coordination burdens and enabling credible commitments (Keohane, 1984). Yet efficiency should not be conflated with systemic effectiveness. What works for a narrow coalition may generate broader institutional costs elsewhere. Thus, while minilateralism scores highly on functional performance, its aggregate contribution to global governance remains more ambiguous.

### **Legitimacy: Persistently Contested**

Despite functional advantages, legitimacy emerges as the most persistent weakness of minilateral nuclear governance. Legitimacy refers not merely to legal validity but to broader perceptions of fairness, representativeness, and appropriateness. Because minilateral arrangements are inherently selective, they often exclude affected states from rule-making while still shaping wider governance outcomes. The NSG's India waiver remains a central example. By granting exceptional access to nuclear commerce for a non-NPT state, the group generated criticism that strategic value had overridden formal principles. Many non-nuclear-weapon states

interpreted the decision as evidence that rules are flexible for some and rigid for others (Mistry, 2014). Likewise, AUKUS has raised concerns among regional actors and non-proliferation advocates who were not party to negotiations yet must absorb the precedent it creates for nuclear propulsion technology transfer.

Even the JCPOA, despite wider international endorsement, reflected a legitimacy paradox. It was negotiated by a limited set of powerful states and then effectively presented to the wider international community as the operative solution to the Iran issue. While many welcomed the outcome, the process still reflected concentrated diplomatic authority. Constructivist scholarship emphasizes that legitimacy is central to rule durability because compliance depends partly on the belief that rules are fair and socially appropriate (Hurd, 2007). Where legitimacy is contested, long-term institutional resilience declines. The comparative evidence therefore indicates that minilateralism often solves immediate coordination problems while generating chronic legitimacy deficits.

#### **Norm Consistency: Progressive Weakening**

A further comparative pattern is the weakening of norm consistency across the nuclear order. Universal regimes such as the NPT derive much of their authority from relatively stable and generalizable principles: non-acquisition, safeguards, peaceful use, and disarmament obligations. Minilateral arrangements frequently reinterpret or selectively apply these principles in response to strategic circumstances. The NSG waiver for India weakened the expectation that access to nuclear trade should be tied to NPT membership or equivalent obligations. AUKUS complicates established understandings of safeguards by creating a novel pathway for transferring weapons-usable material in the context of naval propulsion, even if formally lawful under current frameworks (Acton, 2022). The JCPOA, though more consistent with non-proliferation objectives, also created a highly case-specific model of restrictions negotiated outside general treaty structures. Jeffrey Lantis (2019) argues that non-proliferation norms are increasingly subject to contestation rather than automatic acceptance. The comparative evidence supports this view: norms are not disappearing, but they are becoming differentiated, conditional, and strategically interpreted. This does not necessarily produce immediate regime collapse, but it erodes the predictability and universality that once underpinned the system.

#### **Power Distribution: Concentrated Authority**

The most consistent structural feature across all cases is concentrated power distribution. Minilateral arrangements privilege actors with military capability, technological capacity, economic leverage, or geopolitical centrality. In the JCPOA, the decisive actors were the permanent members of the UN Security Council plus Germany. In the NSG, supplier states control access to sensitive technologies. In AUKUS, three advanced maritime powers designed a strategic arrangement with major regional consequences.

From a neorealist perspective, this outcome is unsurprising. Institutions reflect underlying power distributions and are often designed by stronger states to preserve strategic advantage (Mearsheimer, 2001). Minilateralism is therefore not a departure from power politics but a refined institutional expression of it. What appears as governance innovation may also represent governance stratification. This concentration of authority has consequences for smaller and non-aligned states, whose ability to shape rules declines as governance shifts from universal forums to exclusive coalitions. It also increases the likelihood that institutional outcomes track strategic alignments rather than collectively negotiated principles.

#### **Selective and Hierarchical Governance**

The central comparative finding is that nuclear governance is moving toward a selective, hierarchical model. Rules increasingly emerge through issue-specific coalitions rather than

universal bargaining; participation depends more on strategic relevance than sovereign equality; and compliance expectations vary according to political relationships and material power.

This does not mean multilateralism has disappeared. Rather, universal institutions persist as sources of baseline legitimacy, while unilateral mechanisms increasingly perform operational governance functions. The result is a hybrid order: formally universal, practically selective. Such a transformation carries strategic advantages speed, flexibility, responsiveness but also systemic risks. If too many actors perceive the system as inequitable or instrumentalized by major powers, the normative foundations of non-proliferation may weaken further. The future stability of the nuclear order may therefore depend on whether efficiency gains from unilateralism can be reconciled with renewed commitments to fairness, consistency, and inclusive legitimacy.

### **Discussion and Conclusion**

The preceding analysis demonstrates that unilateralism has become a defining feature of contemporary nuclear governance. Rather than treating it as an episodic diplomatic tool or a temporary institutional deviation, the evidence suggests that unilateralism should be understood as a structural response to the changing conditions of the global nuclear order. It has emerged in an environment characterized by stagnation within universal multilateral institutions, intensified geopolitical rivalry, technological diffusion, and increasing contestation over the legitimacy of the existing non-proliferation regime. In this context, unilateralism performs a dual role: it serves simultaneously as an adaptive mechanism for governance problem-solving and as a driver of institutional fragmentation.

### **Unilateralism as Adaptation to Multilateral Failure**

A primary explanation for the rise of unilateralism lies in the declining capacity of universal multilateral forums to generate timely and effective outcomes. The NPT review process has repeatedly struggled to produce consensus, while broader disarmament institutions such as the Conference on Disarmament remain largely immobilized by procedural deadlock and geopolitical mistrust. In such conditions, states increasingly turn to smaller coalitions capable of acting outside consensus-bound structures. As Patrick (2015) argues, unilateralism reflects a pragmatic recognition that broad-based institutions often fail when strategic interests diverge sharply.

The JCPOA illustrates this adaptive logic. Rather than relying on universal negotiations, the major stakeholders assembled a narrower diplomatic framework capable of combining sanctions leverage, technical expertise, and bargaining flexibility. The resulting agreement achieved substantive restrictions and verification arrangements that had eluded broader diplomatic efforts (Fitzpatrick, 2018). Similarly, the NSG has provided an operational mechanism for coordinating export controls in ways that universal treaty frameworks could not easily replicate. AUKUS likewise reflects adaptation to changing strategic realities, particularly the perceived need for accelerated balancing behavior in the Indo-Pacific.

From a neoliberal institutionalist perspective, these developments confirm that states seek institutional forms that maximize efficiency under changing conditions (Keohane, 1984). Where universal institutions become procedurally rigid or politically blocked, alternative governance formats become more attractive. In this sense, unilateralism is not simply anti-multilateral; it is often a compensatory mechanism generated by multilateral underperformance.

### **Unilateralism as a Source of Fragmentation**

Yet adaptation does not come without cost. The same selective features that make unilateralism efficient also contribute to fragmentation of the broader governance system. Fragmentation occurs when multiple institutions with overlapping mandates, divergent rules, and uneven memberships operate simultaneously without clear hierarchy or coherence. The

nuclear order increasingly displays these characteristics: treaty-based regimes, export control clubs, ad hoc diplomatic frameworks, and strategic coalitions now coexist in a layered institutional environment. The NSG's India waiver provides a clear example. While operationally pragmatic, it introduced tension between NPT universality and exceptional treatment based on strategic calculation. AUKUS adds further complexity by creating a new precedent in safeguards interpretation linked to naval nuclear propulsion. Even the JCPOA, despite its substantive merits, established a highly case-specific regulatory model negotiated outside general treaty procedures. Recent scholarship on regime complexes suggests that such institutional proliferation can generate rule inconsistency, forum shopping, and declining central authority (Eilstrup-Sangiovanni, 2023). States may selectively engage institutions that best serve their interests rather than comply with a coherent universal framework. This does not necessarily produce immediate disorder, but it weakens the predictability and normative clarity that stable regimes require.

### **Emergence of a Hybrid Nuclear Governance System**

The more precise interpretation, therefore, is not that multilateralism is disappearing, but that the nuclear order is evolving into a hybrid governance system. In this emerging structure, universal institutions such as the NPT and IAEA continue to provide baseline legitimacy, legal principles, and formal oversight. Simultaneously, minilateral mechanisms increasingly perform operational governance functions: crisis management, technology coordination, strategic balancing, and issue-specific enforcement. This hybridization reflects a broader transformation in global governance where universal legitimacy and selective functionality are increasingly separated. Multilateral institutions retain symbolic and normative authority, while smaller coalitions often exercise practical problem-solving capacity. Such a division of labor may be efficient in the short term, but it creates structural tension if operational authority drifts too far from universal legitimacy. Constructivist theory is particularly useful here. Legitimacy depends not only on effectiveness but on shared beliefs that governance arrangements are fair and appropriate (Hurd, 2007). If minilateral bodies repeatedly make consequential decisions without broad participation, perceptions of exclusion may intensify. Over time, excluded states may become less willing to internalize norms or support enforcement efforts associated with the wider regime.

### **Implications for Universal Norms and Strategic Competition**

One of the most significant implications of this hybrid shift is the weakening of universal norms. The traditional strength of the non-proliferation regime rested partly on the expectation that common principles applied across cases, even if imperfectly enforced. Minilateralism introduces differentiated application: allies may receive exceptions, strategically important states may receive tailored treatment, and rivals may face stricter scrutiny. Jeffrey Lantis (2019) describes this as norm contestation, where actors actively reinterpret the meaning and scope of accepted rules. The comparative evidence suggests that contestation is now becoming institutionalized. Rules remain formally intact, but their practical application varies according to political context. This creates a movement from universal norms toward conditional norms. Such a trend may be manageable for some time, especially if major powers remain committed to core non-proliferation objectives. However, if enough states conclude that rules are merely instruments of power, voluntary compliance incentives may diminish. The long-term danger is less overt treaty collapse than gradual normative hollowing.

A second implication is the intensification of strategic competition. Minilateralism is especially attractive in periods of geopolitical rivalry because it allows like-minded states to coordinate capabilities quickly. AUKUS is emblematic of this logic. But as security coalitions deepen, rival

powers may respond with their own counter-alignments, technological acceleration, or parallel institutional initiatives. From a neorealist standpoint, this is predictable: institutions become arenas of balancing rather than neutral governance tools (Mearsheimer, 2001). In the nuclear field, where security dilemmas are acute, such dynamics can spill into arms racing, reduced transparency, and weakened crisis stability. Thus, minilateral governance may simultaneously solve narrow coordination problems while worsening broader strategic distrust.

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