American Labor Law and the United States Space Shuttle†

By Leo Kanowitz*

The successful launch of the space shuttle Columbia in 1981 ushered in a new era of commercial, scientific, and military activities in outer space. Columbia’s flight was reminiscent of other historic aviation achievements, such as the transatlantic solo flight of Charles Lindbergh in 1927, John Glenn’s orbit of the Earth in 1962, and the “moon walk” of astronauts Neil Armstrong and Edwin “Buzz” Aldrin in 1969.

Yet the success of Columbia’s maiden round trip voyage had been threatened. Less than two months before Columbia was sent on its

† © 1983 Leo Kanowitz.
* Professor of Law, University of California, Hastings College of the Law. A.B., 1947, College of the City of New York; J.D., 1960, University of California at Berkeley; LL.M., 1967, J.S.D., 1969, Columbia University. The author gratefully acknowledges the research assistance of Sonja E. Blomquist and Leslie Soroch (then third-year students at Hastings College of the Law, now members of the California Bar), in the preparation of this Article. Funding for the research was provided by the NASA-Hastings Research Project, Joint Venture #NCA2-DA280-001. The opinions, conclusions, and recommendations herein are solely the author’s.

2. The National Aeronautics and Space Act of 1958, 42 U.S.C. §§ 2451-2484 (1976 & Supp. V 1981) [hereafter cited as NASA Act], provides the statutory authority for NASA to operate the Space Transportation System, which includes the space shuttle. “The ‘Space Transportation System’ consists of the Space Shuttle . . . , the Spacelab, upper stages such as the Inertial Upper Stage and the Spinning Solid Upper Stages . . . , and any associated flight hardware and software.” Sloup, Current Status of NASA Space Shuttle Regulations, 13 AKRON L. REV. 623, 624 n.7 (1980). The purposes of NASA include the expansion of human knowledge of space; the development and operation of vehicles capable of carrying equipment, supplies, and living organisms through space; and the application of space science and technology to the conduct of peaceful activities within and outside the atmosphere. 42 U.S.C. § 2451 (1976 & Supp. V 1981). The space shuttle has a boxcar-sized cargo hold which will be used to transport scientific equipment, satellites and other materials to be placed in orbit for “customers.” Space shuttle customers may include corporations and foreign countries. See generally Robinson, Private Management and Operation of the Space Shuttle: Some Legal Problems Related to Market Entry, 13 AKRON L. REV. 601, 608-10 (1980). The shuttle will also transport military equipment. See Reed & Norris, Military Use of the Space Shuttle, 13 AKRON L. REV. 665 (1980). The shuttle will be used for navigation, communication, meteorology, and strategic reconnaissance. Id. at 687.
way, a strike by employees at the Kennedy Space Center at Cape Canaveral, Florida, almost caused a serious delay of the launch.3 The strikers did not work for the National Aeronautics and Space Administration (NASA), which directs the space shuttle project, but were employees of the Boeing Corporation, an independent contractor performing indispensable construction work and ground support services at the launch site.4 The incident, which did not seriously impair Columbia's maiden flight, underscores the need to examine the application of American labor law to the space shuttle program.

Potential labor law disputes in the shuttle program pose unique problems. The scientific, commercial, and military uses of the shuttle require that it operate within specific time limits. For example, a satellite bound for a distant planet such as Jupiter can be launched from the shuttle only at certain times if it is to make its rendezvous.5 Certain scientific missions may be limited by "launch windows" that occur only once every 200 years.6 A corporation which has reserved a place on the shuttle for its communications satellite may lose considerable sums of money each day a shuttle flight is delayed.7 Future space stations may have a life-or-death dependence on uninterrupted shuttle service. A military emergency might require the immediate services of the shut-

3. N.Y. Times, Feb. 21, 1981, at 1, col. 6. Prior to the outbreak of the labor dispute on March 25, 1981, the Columbia launch had been delayed several times by a series of other mishaps, including technical problems in attaching heat resistant tiles to the space vehicle's exterior and engineering problems with the rocket system. As of this writing, Columbia and the shuttle Challenger have completed a total of eight flights. None of these flights, to the author's knowledge, has been delayed because of labor problems.


6. For example, "The Voyager program is a scaled down version of the 'Grand Tour' program cancelled by NASA in 1972, which would have taken advantage of the alignment of the planets that occurs once every two hundred years, to send two spacecraft in 1977 to Jupiter, Saturn and Pluto, and two spacecraft in 1979 to Jupiter, Uranus and Neptune." Staff of House Comm. on Science and Technology, supra note 5, at 805. Another example is Halley's Comet, which approaches Earth only at intervals of 74 to 79 years. 7 The Encyclopedia Americana 367 (1970).

7. See Gray, Case for a Fifth Shuttle and More Expendable Launch Vehicles, Astronautics & Aeronautics, Mar. 1981, at 25-26. NASA may be liable for contract damages if it has promised the delivery of the equipment within a limited time period, although NASA's basic "Launch Agreement" greatly limits any contractual damages NASA might have to pay to a shuttle user. See Agreement Between the United States of America Represented by the National Aeronautics and Space Administration and (Name of Person, Company, Organization or Government) For Launch and Associated Services, on file in NASA-Hastings Research Project Office, University of California, Hastings College of the Law. This form agreement is also available from NASA headquarters in Washington, D.C.
In each instance, a work stoppage that delayed a shuttle launch or disrupted in-flight activities could have serious consequences.

This Article will examine various shuttle-related labor problems that could arise on Earth (primarily within the United States) or in space. Rather than attempting a comprehensive analysis of all the potential labor law problems involving the shuttle, the Article discusses a number of representative areas deserving special attention: disputes between NASA and its own employees, third-party disputes adversely affecting shuttle operations, disputes arising from the planned private management of the shuttle, and disputes on the space stations that the shuttle program may one day establish. In each of these cases the Article explores the extent to which the National Labor Relations and the Labor Management Relations Acts (Labor Act) and other federal labor laws are adequate to meet the unique labor problems that may arise. It is the author's hope that others will continue the analysis initiated in these pages.

Shuttle-Related Activities on Earth

Introduction

The space shuttle program could be seriously affected by two types of labor conflicts on Earth. First, as long as the program is directed by the federal agency NASA, NASA's own employees could develop grievances that might lead to strikes, slowdowns, and other forms of job actions. Second, employees of third parties could become involved in labor disputes with their own employers under circumstances that would adversely affect NASA's operation of the space program. Such "third-party" disputes could arise between a NASA contractor and its employees or between a shuttle "customer" and its employees. Different rules would apply to each type of dispute.

Labor Disputes Between NASA and its Own Employees

Currently, only federal employees are involved in the operation

---

8. Military personnel engaged in the operation of a shuttle can be recalled to active duty if a civilian spacecraft is needed for military purposes. NASA and the Department of Defense have agreed that NASA's employees are subject to both NASA and military regulations. Robinson, Space Industrialization and the Legal Status of Astronauts: Start of a Jurisdictional Headscratcher, 2 HOUS. J. INT'L L. 77, 81 (1979).

and management of the space shuttle. It is a crime against the government for federal employees to strike. An employee who is participating in a strike is prohibited from holding a federal job, and federal employees are required to swear that they are not striking and will not strike. The Civil Service Reform Act of 1978 (Reform Act) provides that a union whose members are federal employees loses its status as a labor organization if it calls a strike.

The legal prohibition of the right of public employees to strike has generated much debate. On one side are those who insist that public employees, no less than employees in the private sector, should have the right to strike and to resort to other economic weapons in support of collective bargaining. On the other side are those who believe the right to strike would give public employees undue power and would be inconsistent with the obligations of public employees to their ultimate employers, the taxpayers, and the general public. This debate contin-

10. Robinson, supra note 2, at 602-03.
13. Id. § 3333.
15. Id. § 7120(f).
16. Proponents of a right of public employees to strike underscore the similarities between the situation of workers in the public and private sectors of the economy. Both groups of workers, they insist, must combine into unions to equalize their bargaining strength with that of their employers; both work for wages and seek control over their working conditions. See, e.g., Anderson Fed'n of Teachers, Local 519 v. School City of Anderson, 252 Ind. 558, 566-67, 251 N.E.2d 15, 19-20 (1969) (DeBruler, C.J., dissenting), cert. denied, 399 U.S. 928 (1970). The right to bargain collectively is of limited significance, however, without the further right to exert economic pressure, in the form of strikes, slowdowns, and boycotts, aimed at persuading employers to accept the terms and conditions of employment sought by their employees' bargaining representative. See generally Burton & Krider, The Role and Consequences of Strikes by Public Employees, 79 YALE L.J. 418 (1970).
17. Public employee strikes historically have been regarded with disfavor in the United States. President Franklin D. Roosevelt believed that a strike of public employees "manifests nothing less than intent on their parts to prevent or obstruct the operations of government until their demands are satisfied. Such action, looking toward the paralysis of government by those who have sworn to uphold it, is unthinkable and intolerable." Letter to the President of the National Federation of Federal Employees, Aug. 16, 1937 (quoted in Anderson Fed'n of Teachers, Local 519 v. School City of Anderson, 252 Ind. 558, 563, 251 N.E.2d 15, 18 (1969)). See also City of Alcoa v. International Bhd. of Elec. Workers, Local 760, 203 Tenn. 12, 308 S.W.2d 476 (1957); Port of Seattle v. International Longshoremen's & Warehousemen's Union, 52 Wash. 2d 317, 324 P.2d 1099 (1958). For more recent arguments against public employee strikes, see Wellington & Winter, The Limits of Collective Bargaining in Public Employment, 78 YALE L.J. 1107 (1969). Opponents of public employee strikes argue that economic restraints are not present to any meaningful degree in the public sector. Id. at 1117. They contend that public pressure on government officials forces quick settlements. Id. at 1123-25.

Because such strikes occur in a political arena, opponents characterize them as unique
ues, but the fact remains that, except for eight states which recognize a limited right of public employees to strike, public employee strikes remain prohibited by both the state and federal governments.

The prohibition of public employee strikes on the state level has been far from effective in preventing such strikes. Despite a variety of sanctions available under state laws, strikes by teachers, nurses, municipal railway employees, and even police and fire fighters have not been uncommon. Often, strikes by public employees at the state level go unpunished, in order to avoid embittered relations in the work place after the strike, and to prevent the severe harm to the agency or public that might result if all available sanctions were invoked against the strikers.

Experience in the federal sector has generally been different. Until recently, the only major breach of the federal prohibition occurred in 1970 when United States Postal Service employees struck in scattered

weapons unavailable to the governmental employer or to other pressure groups. In San Diego Teachers Ass'n v. Superior Court, 24 Cal. 3d 1, 593 P.2d 838, 154 Cal. Rptr. 893 (1979), which, in effect, recognizes that the state Public Employees Relations Board (PERB) has discretion whether to seek an injunction to halt a public employees' strike, and that if PERB decides not to seek such an injunction, one may not otherwise be granted by a state court merely on the grounds that a public employee strike has occurred. Significantly, the California Supreme Court expressly refused in this case to decide whether public employee strikes were outlawed as such under California law. See also J. Grodin, D. Wollett & R. Alleyne, Jr., Collective Bargaining in Public Employment 235-37 (3d ed. 1979).

As noted earlier, it is a crime to participate in a strike against the federal government or any of its agencies. See supra text accompanying notes 11-15. In addition, under the Civil Service Reform Act of 1978 it is an unfair labor practice for a labor organization to "call, or participate, in a strike, work stoppage, or slowdown, or picketing of [a federal agency] in a labor-management dispute if such picketing interferes with an agency's operation." 5 U.S.C. § 7116(b)(7)(A) (Supp. V 1981) [hereinafter cited as Reform Act]. A union that condones such activity, by failing to take action to prevent or stop it, is also guilty of an unfair labor practice. Id. § 7116(b)(7)(B).

Aside from the possibility of fines and jail terms for contempt in violating an anti-strike injunction, public employee strikers may be subject to diverse statutory sanctions. These generally include the possibility of job loss. Under N.Y. Civ. Serv. Law § 210(g) (McKinney 1973), it also includes a monetary penalty, "an amount equal to twice [the striker's] daily rate of pay for each day or part thereof" in which he participated in prohibited conduct. See J. Grodin, D. Wollett & R. Alleyne, Jr., supra note 18, at 260-61.

localities throughout the country.\textsuperscript{23} The federal government swiftly discharged the strikers. Any doubts about the federal government's approach to illegal strikers were largely dispelled by the Reagan Administration's response in 1981 to the strike by thousands of air traffic controllers,\textsuperscript{24} all of whom were federal employees. Some 11,000 of the striking controllers were discharged.\textsuperscript{25} In addition, their union, the Professional Air Traffic Controllers Organization (PATCO), lost its right to represent the controllers in collective bargaining.\textsuperscript{26}

Against this backdrop, no new legislation appears necessary to strengthen NASA's legal ability to respond to strikes and other disruptions by its own employees.\textsuperscript{27} After PATCO's experience, few federal employees will believe that they can participate in an illegal strike with impunity. However, the unique exigencies of the shuttle program suggest that the prevention of work disruptions is imperative.

A more enduring deterrent against strikes by public employees generally, and NASA employees in particular, would be the use of alternative means of balancing the bargaining strength of those employees and their employers. It is well recognized, for example, that the use of economic pressure is "part and parcel of the process of collective bargaining."\textsuperscript{28} The "ability to strike or to make a credible strike threat is the motive power which causes the bargaining parties to make a maximum effort to reach agreement. . . ."\textsuperscript{29} When formal rules prescribed by decisional or statutory law eliminate the strike or strike threat, "[t]he motive power for good-faith bargaining must be found elsewhere."\textsuperscript{30}

\begin{thebibliography}{99}

\bibitem{airtraffic} See, e.g., N.Y. Times, Aug. 3, 1983, at 1, col. 6; Aug. 4, 1983, at 1, col. 6.

\bibitem{patco} Professional Air Traffic Controllers Org. v. Federal Labor Relations Auth., 685 F.2d 547, 552 (D.C. Cir. 1982).


\bibitem{dedication} An additional factor is the dedication these employees undoubtedly have to NASA's mission, which could lead to subordination of common employee objectives. This is not unheard of even among organized workers. Consider, for example, the general no-strike pledge that was overwhelmingly honored by workers and unions during World War II. See N.Y. Times, Apr. 22, 1942, at 19, col. 6.

\bibitem{insurance} NLRB v. Insurance Agents' Int'l Union, 361 U.S. 477, 495 (1960).

\bibitem{grodin} J. Grodin, D. Wollett & R. Alleyne, Jr., supra note 18, at 269.

\bibitem{id} Id.
\end{thebibliography}
Experimentation with strike alternatives during interest disputes has occurred mainly in the public sector where the right to strike is limited or denied. As of 1979, for example, twenty-seven states provided by statute for some type of public sector arbitration. In many instances resort to arbitration is mandatory, primarily in disputes involving police and firefighters, "but in some states it extends to other employees whose services affect public health or safety, to teachers, and in Iowa to nearly all state and local employees."

The Reform Act prohibits strikes by federal employees, but it also prescribes alternative procedures to resolve both interest disputes and grievance disputes in the federal service. The Reform Act accords public employees the right to organize into unions and the right to be represented by their designated bargaining representatives. It also requires the federal government to consult or bargain in good faith with those bargaining representatives, provides for compulsory arbitration of grievances, and empowers the Federal Service Impasses Panel, after other prescribed procedures have failed to resolve an impasse in negotiations, to "hold hearings" and then "take whatever action is necessary . . . to resolve" it. While withholding the right to strike because of a perception that federal employment status requires special treatment, the Reform Act nevertheless recognizes that, as workers, federal employees require some means of effectively dealing with their employers on a collective basis. The result is that the collective bargaining rights of federal employees are now much greater than they were in the past, although not all are satisfied with the situation.

31. Interest disputes occur during negotiations for a collective bargaining agreement when the parties cannot agree on its terms. A second category of disputes, the grievance dispute, arises under a collective bargaining agreement already negotiated and effective between the parties. Most collective bargaining agreements contain grievance procedures including binding arbitration as the final step. F. ELKOURI & E. ELKOURI, HOW ARBITRATION WORKS 7 (3d ed. 1978). In 1978, 94% of the collective bargaining agreements in the nation's important industries provided for arbitration as the terminal point of the grievance machinery. Id.

33. Id.
36. Id. § 7102(2) (Supp. V 1981).
37. Id. § 7116(a)(5) (Supp. V 1981). For a discussion of the limited nature of the bargaining duty under the Reform Act, see infra text accompanying note 41.
39. Id. § 7119(c)(5)(B)(i), (iii).
40. See supra text accompanying note 17.
The most serious shortcoming of the Reform Act is that the bargaining duty it imposes upon federal agencies is limited to certain types of personnel policies and practices affecting working conditions within the authority of agency managers and does not extend to wage and salary questions. Because a desire to improve their wages and salaries is among the major reasons that working people organize into unions, the collective bargaining rights they enjoy under the Reform Act are thus considerably narrower than those enjoyed by workers in the private sector, who are protected by the Labor Act. More significant, perhaps, is that these rights are also more restricted than those enjoyed by the largest contingent of federal employees, the United States Postal Service workers. Under the Postal Reorganization Act of 1970, which established the United States Postal Service as an “independent establishment” of the Executive Department, labor relations in the postal service are, with some exceptions, made subject to the provisions of the Labor Act. Among other things, this means that the bargaining duty of the United States Postal Service, unlike that of other federal agencies, extends to the types of economic issues that lie at the heart of union-management relations in the private sector of the economy. The Postal Reorganization Act also provides for mandatory fact-finding and mandatory arbitration, depending on the duration of a bargaining impasse.

Third-Party (or Non-NASA) Labor Disputes Adversely Affecting Shuttle Operations

Private Management of Space Shuttle Activities

Since 1978, NASA has been considering turning over the management of virtually all space shuttle operations to private contractors. If this were done, NASA would still exert control over the activities of the contractors, and NASA funds would still operate the space transportation system, but the agency would devote fewer internal resources to operations and concentrate more on research and development. A launch operations contractor would manage operations, subcontracting

44. Id. § 207(b).
45. Id. § 207(c).
47. Id.
major shuttle components to companies now providing them. A payload contractor would take over from government employees the hands-on work with shuttle payloads. In mid-1981, NASA's new administrators supported a "shuttle flight operations organization separate from NASA and the Defense Dept. and possibly quasi-commercial [as] the most cost effective way to operate the complete U.S. shuttle fleet." Different labor law principles would apply if the shuttle's operational activities were transferred from NASA to private contractors. Congress would have to consider whether private sector shuttle employees should be covered by the Labor Act, Railway Labor Act (RLA) or special legislation similar to the labor provisions of the Postal Reorganization Act. Significant differences between these three regulatory schemes make this an important decision. At present,

48. Id.
49. Id.
52. For a description of the major features of the Postal Reorganization Act, see supra text accompanying notes 42-45. Although the NLRA and the RLA differ in many respects, they share important characteristics, one of the most important being protection of the right to strike. Even here, however, certain differences distinguish the two statutes. The RLA, for example, prohibits workers covered by its provisions from striking over "minor disputes" which are essentially grievances that arise under collective bargaining agreements. Elgin, J. & E. Ry. v. Burley, 325 U.S. 711, 723-24 (1945). Under the RLA, such grievances must be submitted to arbitration by the Railway Adjustment Board if they are not otherwise peacefully resolved by the parties. Id. at 726-27. By contrast, the NLRA theoretically permits workers it covers to strike over such "minor disputes" or grievances. As a practical matter, however, their situation does not differ fundamentally from their RLA-covered counterparts, since over 94% of private sector collective bargaining agreements provide for arbitration of grievances that arise under the agreement. See supra note 31. Because a union's agreement not to strike is the quid pro quo for an agreement to arbitrate, Textile Workers Union v. Lincoln Mills, 353 U.S. 448, 455 (1957), there are thus very few collective bargaining contracts in the private sector in which unions do not voluntarily waive the right to strike during the contract term.

Still, unlike the situation in the railroad and airline industries which are covered by the RLA, neither a waiver nor arbitration is required by the NLRA. That fact could suggest to Congress that at least this feature of RLA regulation should be extended to workers on space stations, either as part of a new regulatory scheme, or as a NLRA modification that would apply only to such workers. Cf. 29 U.S.C. § 158(d) (1976) (special provisions of the NLRA dealing with employees of health care institutions).

Another difference between the two statutes is that the RLA does not have a provision comparable to § 14(b) of the NLRA, which permits states to enact "right-to-work" laws. 29
however, the NASA Act does not authorize NASA to operate the shuttle as a common carrier, so the RLA could not apply. This section consequently focuses on the application of the Labor Act to private sector shuttle employees.

Private sector employees responsible for shuttle operations would not be subject to the prohibition against federal employee strikes under either the Labor Act or RLA, unless new legislation applied that prohibition to them. In the absence of new legislation, that portion of shuttle operations that had become private enterprise would be governed by the National Labor Relations Act (NLRA), and the employees would thus be protected by section 7 of the NLRA which guarantees the right to strike. Thus the transfer of operational responsibility for the shut-

U.S.C. § 164(b) (1976). Indeed, in industries governed by the RLA, the “union” shop is permitted, “[n]otwithstanding any other provisions of . . . any other statute or law of the United States, or Territory thereof, or of any State . . . .” Under the RLA, a collective bargaining agreement can lawfully require employees to become members of the contracting union within 60 days after they are hired or after the effective date of the agreement. 45 U.S.C. § 152 (a) (1976). Congressional judgments as to which Act’s treatment of the union security issue is more desirable for space station workers are likely to be made more with an eye toward political realities at the time of enactment rather than because of the intrinsic merits of either statutory scheme.

Still another important difference between the two Acts relates to the legality of a union’s resort to secondary pressures to support organizational and bargaining objectives. Section 8(b)(4)(B) of the NLRA prohibits unions from engaging in secondary boycotts or similar activities. 29 U.S.C. § 158(b)(4)(B) (1976). See infra notes 100-02 & accompanying text. By contrast, the RLA does not expressly prohibit secondary pressure. In Brotherhood of R.R. Trainmen v. Jacksonville Terminal Co., 394 U.S. 369 (1969), the Supreme Court held that, provided all impasse resolving procedures for “major” disputes are exhausted, both labor and management may resort to “the full range of whatever peaceful economic power they can muster, so long as its use conflicts with no other obligation imposed by federal law. Hence, until Congress acts, picketing [by employees covered by the RLA]—whether characterized as primary or secondary—must be deemed conduct protected against state proscription.” Id. at 392-93.

“Minor” disputes under the RLA involve the interpretation and application of existing collective bargaining agreements. With respect to such disputes the RLA, like the Reform Act, prohibits strikes and mandates arbitration as the final step in the grievance procedure. By contrast, if a dispute is “major,” the RLA not only permits strikes, but employees may exert secondary pressures against “innocent” third-party employers, a “right” that is denied to employees covered by the NLRA.

53. Robinson, supra note 2, at 610. See also Mossinghoff & Sloup, Legal Issues Inherent in Space Shuttle Operations, 6 J. SPACE LAW 47, 53-60 (1978) (not only does current American law not authorize operation of the shuttle as a common carrier, but the United States, because of international commitments it has made, should not change this policy in the future).


55. The full text of § 7 states: “Employees shall have the right to self-organization, to form, join, or assist labor organizations, to bargain collectively through representatives of their own choosing, and to engage in other concerted activities for the purpose of collective
tute to private enterprise could increase the risk of delayed launches and other disruptions.

This increased risk of work disruptions is not only the result of the protected right to strike, but also of the possibility of work stoppages brought about by employer lockouts. Employers have the right to use a lockout, after a negotiating impasse has been reached, as a means of pressuring their employees to accede to their bargaining position. Although the question has not been finally settled by the Supreme Court, it may even be permissible for an employer to resort to a bargaining lockout before an impasse has been reached in negotiations. As a condition of a transfer of shuttle operations to private operators, employers could be required to relinquish the lockout weapon. However, employers may be unwilling to waive the right to a lockout if their own employees retain the right to strike.

The NLRA does not absolutely protect the right of employees to strike or the right of employers to lock out their employees. There are restrictions in the Act on the exercise of these rights that can give considerable protection to the public's interest in uninterrupted operation of the shuttle program and related activities.

The first such safeguard applies if a collective bargaining relationship already exists between an employer to whom the shuttle's operational activities have been transferred and the employees. In this situation section (8)(d) of the NLRA prohibits either party from terminating or modifying the agreement without notifying the other in writing at least sixty days in advance. The parties are also required to notify the Federal Mediation and Conciliation Service (FMCS) and state conciliation agencies of the dispute within thirty days. Notice to the FMCS and the state agencies is designed to enable the FMCS or

---

bargaining or other mutual aid or protection, and shall also have the right to refrain from any or all of such activities except to the extent that such right may be affected by an agreement requiring membership in a labor organization as a condition of employment as authorized in section 8(a)(3)." 29 U.S.C. § 157 (1976). The § 7 right to engage in "concerted activities" is reinforced by § 13 of the NLRA, which states that "[n]othing in this Act, except as specifically provided for herein, shall be construed so as either to interfere with or impede or diminish in any way the right to strike, or to affect the limitations or qualifications on the right." Id. § 163.

57. See, e.g., Lane v. NLRB, 418 F.2d 1208 (D.C. Cir. 1969). Other purposes for which employer lockouts have been held not to violate the Act include defending a multi-employer bargaining unit, NLRB v. Truck Drivers Local 449 (Buffalo Linen), 353 U.S. 87 (1957), and the prevention of imminent harm to plant and equipment, Betts Cadillac Olds, Inc., 96 N.L.R.B. 268, 291-92 (1951).
the state agencies to intervene and assist the parties in resolving their dispute. The NLRA also requires the parties to continue "in full force and effect, without resorting to strike or lockout, all the terms and conditions of the existing contract for a period of sixty days after such notice [of proposed termination or modification] is given or until the expiration date of such contract, whichever occurs later."  

A union that engages in a strike, or an employer who engages in a lockout during the minimum sixty-day no-strike period, commits the unfair labor practice of refusal to bargain.  

If either a strike or a lockout were to occur during the sixty-day period, the National Labor Relations Board (NLRB) could, and very likely would, promptly seek a temporary restraining order against any threatened disruption of shuttle operations. The NLRA empowers the NLRB to seek such relief "upon the issuance of a complaint" charging a person with an unfair labor practice.

Although the NLRB's power to issue a complaint is dependent upon its having received a charge that a person or entity has engaged in an unfair labor practice, such a charge would be filed readily by employers, unions, employees, or others in the event a strike or lockout violated section 8(d)(4). The complaint could issue almost immediately after the charge is filed, as the NLRB will be able quickly to ascertain through a field investigation whether a strike or lockout occurred within the sixty-day period. The temporary restraining order could be sought and obtained almost simultaneously with the issuance of the

---


61. NLRA § 8(a)(5) declares that it is an unfair labor practice for an employer "to refuse to bargain collectively with the representatives of his employees, subject to the provisions of section 9(a)." 29 U.S.C. § 158(a)(5) (1976). Section 8(b)(3) imposes a corresponding obligation on unions by declaring that it is an unfair labor practice for a union "to refuse to bargain collectively with an employer, provided it is the representative of his employees subject to the provisions of section 9(a)." Id. § 158(b)(3). Section 8(d) provides in pertinent part that: "For the purposes of this section, to bargain collectively is the performance of the mutual obligation of the employer and the representative of the employees to meet at reasonable times and confer in good faith with respect to wages, hours, and other terms and conditions of employment, or the negotiation of an agreement, or any question arising thereunder, and the execution of a written contract incorporating any agreement reached if requested by either party, but such obligation does not compel either party to agree to a proposal or require the making of a concession . . . ." Id. § 158(d).

62. A final determination by the NLRB or the federal courts that an unfair labor practice has been committed can consume much time. In Linden Lumber Division, Summer & Co. v. NLRB, 419 U.S. 301 (1974), the Supreme Court noted: "In Linden the time for filing the charge and the Board's ruling was about 4 1/2 years; in Wilder, about 6 1/2 years. The Board's experience indicates that the median time in a contested case is 388 days." Id. at 306.

complaint. 64

While section 8(d)(4) may effectively discourage strikes or lockouts for a sixty-day period when disputes arise over proposed termination or modification of existing contracts, it does not address the threat of strikes or lockouts in three other important situations. One is when the sixty-day period has expired. Another is when the strike is not aimed at pressuring an employer to accept the union’s contract demands but only at protesting the employer’s unfair labor practice or practices. 65 The third is when a threatened strike or lockout is aimed at furthering economic demands, but no prior collective bargaining agreement is in effect between the parties.

Even in these situations, however, other provisions of the Labor Act protect against strikes or lockouts that threaten vital operations of the space shuttle program or other space related activities. In particular, special procedures for labor disputes that create “national emergencies” offer a means of delaying, if not preventing, such strikes or lockouts. 66

Section 206 of the Labor Management Relations Act (LMRA) provides that “[w]henever in the opinion of the President of the United States, a threatened or actual strike or lockout . . . will, if permitted to occur or continue, imperil the national health or safety, he may appoint a board of inquiry into the issues involved in the dispute and to make a written report to him within such time as he shall prescribe.” 67 After receiving the report, the President may direct the Attorney General to petition a district court for an injunction. 68 The district court is given jurisdiction to enjoin the strike or lockout, or its continuation, and to

64. The prospect of a speedy court injunction of any strike or lockout violating § 8(d)(4) would account for the absence of cases reporting such violations.

65. The United States Supreme Court has held that employees who strike during the waiting period prescribed by § 8(d)(4) solely against unfair labor practices of their employers do not lose their status as employees under the Act. Mastro Plastics Corp. v. NLRB, 350 U.S. 280 (1956). Presumably, this decision also means that an unfair labor practice strike during the prescribed waiting period does not constitute a refusal to bargain, and that it therefore may not be temporarily restrained by a federal court or be held by the NLRB to be an unfair labor practice.


67. LMRA § 206, 29 U.S.C. § 176 (1976). The board is empowered to conduct public or private hearings “to ascertain the facts with respect to the causes and circumstances of the dispute.” LMRA § 207(a), 29 U.S.C. § 177(a) (1976). The board of inquiry’s written report must include a statement of the facts with respect to the dispute, including each party’s statement of its position, but it must not include any recommendations. LMRA § 206, 29 U.S.C. § 176 (1976).

make other appropriate orders. The district court injunction, if it issues, can remain in effect for no more than eighty days. During this period, the parties must try to settle their dispute with the aid of the FMCS. If no settlement of the underlying labor dispute has been reached by the end of the eighty-day "cooling off" period, the strike or lockout may go forward without violating the national emergency provisions of the LMRA.

Two conditions must be satisfied before a national emergency injunction can issue: 1) the strike or lockout must affect "an entire industry or a substantial part thereof" engaged in interstate commerce; and 2) the strike or lockout "if permitted to occur or to continue, will imperil the national health or safety."

There should be little difficulty in establishing that the private operation of the space shuttle "affects an entire industry or a substantial part thereof" in an industry engaged in interstate commerce. By virtue of the enormous costs and technological complexities involved, space shuttle operation is likely to be monopolized by a single corporation. Even if new firms develop competing versions of the shuttle, the number of firms operating is not likely to become large. Therefore, any private shuttle operations would likely continue to affect a "substantial part" of the space shuttle industry.

Moreover, in determining whether a strike or lockout affects a substantial part of an industry, the courts have looked not only at the industry directly affected by the work stoppage, but also at other industries that will be indirectly affected. An injunction has been granted, for example, against a strike at a single plant furnishing specialized products to Atomic Energy Commission contractors for use in constructing nuclear materials facilities. The specialized nature of the

69. Id.
70. LMRA § 209(a), 29 U.S.C. § 179(a) (1976). When the injunction is issued, the President is required to reconvene the board of inquiry. LMRA § 209(b), 29 U.S.C. § 179(b) (1976). If the parties have not settled their dispute within 60 days after the injunction has issued, the board of inquiry must report to the President again, informing him of the parties' current positions and the employer's last settlement offer. Id. Within 15 days after this report has been submitted to the President and made public, the NLRB is required to conduct a secret ballot election to determine whether the employees involved accept the employer's final settlement offer. Id. The results of this election must be certified by the NLRB to the Attorney General within five days. Id. Upon such certification, or if there is an earlier settlement, the Attorney General must seek, and the court must grant, a discharge of the previously issued injunction. LMRA § 210, 29 U.S.C. § 180 (1976).
72. Id.
products and the character of their intended recipient led the Second Circuit to conclude that the strike affected a substantial part of the atomic energy industry and imperiled the safety of the nation. As Professor Gorman has noted, this "‘tracing’ of the impact of a strike to other industries has been typically employed in cases involving defense industries, in which courts have also used the technique of declaring what would normally be considered only a sector of an industry to be a specialized industry in its own right (thus increasing the ‘substantiality’ of the disruption)." As a result, the lower courts have "construed the Act [so] as to dictate a finding of ‘substantiality’ in almost any case which significantly involves [United States] defense interests." Disputes involving the shuttle should meet this criterion, as the shuttle’s military importance will continue even under a private operator.

The second condition for a national emergency injunction is that the strike or lockout "will imperil the national health or safety." This condition will not be difficult to satisfy if the shuttle’s operational activities are transferred to a private firm. First, despite such a transfer, the shuttle’s military potential will not be substantially diminished. The Supreme Court has held that danger to either national health or safety is sufficient to satisfy this second condition, and that interference with military or defense production clearly threatens national safety. In a context analogous to future shuttle operations, the Second Circuit upheld an injunction against a merchant marine strike because, as a matter of law, even the affected nonmilitary ships had to be prepared at all times to transport oil from foreign countries and be available as naval and military auxiliary in time of war and national emergency.

These cases suggest that the courts may consider strikes or lockouts affecting private shuttle operations to be no less threatening to the national health or safety than similar disruptions of a governmental shuttle service. Any doubts about this conclusion could be dispelled by drafting the legislation or contract effecting the transfer to private con-

74. Id. at 135.
76. R.A. GORMAN, supra note 75, at 370.
78. The adverse effect of the 1959 Steelworkers’ strike on NASA’s “Project Mercury” was an important element in the Court’s conclusion that the strike posed a threat to national safety. Id. at 42, n.*.
80. Id. at 388-89.
tractors to require that those contractors make their shuttles available in the event of war or national emergency, and be prepared at all times to transport any material between Earth and the shuttles.

In most cases of potential strikes and lockouts threatening the private operation of the space shuttle, the LMRA national emergency provisions should be adequate to minimize disruption. The President's appointment of a board of inquiry, its initial report, the request for an injunction against the strike or lockout, and the court's issuance of the injunction could all take place within several days.\textsuperscript{81} Even if the national emergency procedures are set in motion during a strike or lockout, expediting those procedures can in most situations limit the harm to the shuttle mission. However, in rare situations, as in the case of a limited "launch window" or a special military mission, serious injury could be caused in the short time needed to satisfy the procedural requirements for a national emergency injunction. Coping with such rare potential dangers poses problems. Any effort to enact legislation imposing an absolute prohibition of strikes on the private sector of the American economy would be likely to encounter major political difficulties.\textsuperscript{82} Less controversial would be new legislation that is carefully designed for these limited situations in which existing procedures for enjoining national emergency strikes and lockouts are inadequate.

Together, section 8(d)(4) and the national emergency procedures may prevent crippling work stoppages in any privately operated shuttle program. In situations not covered by section 8(d)(4)'s sixty-day waiting period, the eighty-day "cooling off" period for national emergency strikes and lockouts may temporarily halt such work stoppages. The national emergency procedures have not by themselves produced permanent settlements between employers and unions subject to those procedures. No greater success can be expected between private employers operating the shuttle and their employees. Still, enjoining any work stoppage for eighty days can provide breathing space for all concerned. Most important, it can give Congress time to decide whether, under the circumstances of a particular case, special legislation is needed to deal with the threatened strike or lockout once the eighty-day period has expired.

\textsuperscript{81} In United Steelworkers v. United States, 361 U.S. 39 (1959), Justice Frankfurter noted that the board of inquiry was created on October 9, 1959, its report to the President was submitted on October 19th, and the district court injunction was granted on October 21st. \textit{Id.} at 44-45 (Frankfurter, J., concurring).

\textsuperscript{82} Prohibiting private sector strikes in space, by contrast, may not present the same types of political difficulties. \textit{See infra} text accompanying note 134.
The LMRA requires the President to submit a comprehensive report to Congress, "together with such recommendations as he may see fit to make for consideration and appropriate action," when the eighty-day injunction has been discharged by the court upon the motion of the Attorney General. There nevertheless appears to be no impediment to the President's recommending to Congress, at some point during the eighty-day period, legislation to take effect immediately upon the expiration of the eighty-day period, if the dispute has not yet been settled.

Such legislation might take a variety of forms. It could, for example, put the shuttle operations back under federal management and transform the workers into federal employees, thus subjecting them to the strike prohibition that applies to all federal employees and preventing any threatened employer lockout. Alternatively, the legislation might simply extend the previous eighty-day court injunction by prohibiting the strike or lockout for an additional period of time.

Concededly, there is a problem if the President recommends the enactment of legislation to take effect upon the expiration of the injunction. It has been noted, for example, that the "very uncertainty facing the parties as to what course the Government may take if they fail to reach a settlement may be one of the most powerful encouragements to settlement." Knowledge of pending congressional action could hamper meaningful bargaining while the eighty-day injunction is in effect. In many types of national emergency disputes, this potential risk may counsel against a premature presidential recommendation of new legislation. As noted earlier, however, the space shuttle's operation poses acute problems of timing, accuracy and discipline; even brief work stoppages could seriously undermine the shuttle's mission and the nation's defense interests. The dangers in failing to prepare contingent legislation that would take effect as soon as the eighty-day injunction ended appear to outweigh any risks created by the government "tipping its hand."

Further, where such a short critical period exists, the eighty-day injunction will be adequate to prevent any labor dispute from delaying a given shuttle flight or other space venture. For example, if an im-

84. Such legislation would essentially effect a federal "seizure" of the shuttle's operation. The Supreme Court has indicated that, although such seizures are beyond the inherent powers of the President, they can be effected by the Congress. See Youngstown Sheet & Tube Co. v. Sawyer, 343 U.S. 579 (1952).
pending or existing strike or lockout threatens such a delay, the eighty-
day injunction may well cover the period before, during, and after the
anticipated launch date.

The effectiveness of labor injunctions has been questioned. In the
case of the national emergency injunction in particular, it has been
noted that imposing high fines against a union for contempt of an in-
junction order will not necessarily deter violations by individual mem-
ers who engage in wildcat strikes. Whether individual members can
be bound by an injunction directed against their union is also an open
question; in many instances where a court has enjoined a union and all
persons in active concert with it, no action was taken against employees
who refused to return to work. Other shortcomings have been the
subject of widespread scholarly and judicial criticism.

86. Rosen, Effectiveness of the Judiciary in National Emergency Labor Disputes, 6
RUTGERS L. REV. 402, 413-16 (1952).

87. Shipman, The Scope of the National Emergency Labor Injunction Law, 9 SETON

88. Among the criticisms that have been directed at the national emergency provisions
are: 1) that they do not begin to operate until a national emergency has been threatened,
that is, that the Act does not have any preventive measures, see Crossland, Public Interest
Labor Disputes: An Economic and Legal Analysis Beyond the Pale of Title II of the Taft-
Hartley Act, 12 WAYNE L. REV. 780, 800 (1966); accord Woodley, Emergency Labor Dis-
putes and the Public Interest: The Proposals for Legislative Reform, 17 ST. LOUIS U.L.J. 47,
51 n.21 (1972); 2) that the limitation of the board of inquiry's role to fact-finding and its
inability to make any recommendations combined with the fact that the board's initial in-
quiry reports must be "squeezed into the brief period between the time of a board's appoint-
ment and the President's request for an injunction," Pierson, An Evaluation of the National
Emergency Provisions, in EMERGENCY DISPUTES AND NATIONAL POLICY 129, 136 (Bern-
stein, Evarson & Fleming eds. 1966) "precludes the board from making any constructive
contributions to the settlement of a dispute," Woodley, supra, at 51; accord Smythe, Public
Policy and Emergency Disputes, 14 LAB. L.J. 827 (1963); Marshall, New Perspectives on Na-
tional Emergency Disputes, 18 LAB. L.J. 451 (1967); 3) that merely invoking the Act hinders
negotiations "because the parties must shift their energy from the search for agreement to
the more immediate task of making a good presentation before the board of inquiry,"
Rehmus, The Operation of the National Emergency Provisions of the Labor Management Re-
lations Act of 1947, 62 YALE L.J. 1047, 1054 (1953); 4) that the injunction is only a tempo-
rary solution which postpones, but does not encourage, settlement of the underlying
dispute, Woodley, supra, at 50; accord Smythe, supra, 5) that the injunction actually hinders collective bargaining
because compulsory "postponement carries with it the heavy but inescapable cost of tempo-
rarily removing from the parties the pressure imposed by a strike or strike threat, to continue
active bargaining," Pierson, supra, at 139; accord Goldberg & Barbash, Labor Looks at the
National Emergency Provisions, in EMERGENCY DISPUTES AND NATIONAL POLICY 115 (I.
Bernstein, H. Enarson & R. Fleming eds. 1966); 6) that experience suggests that "the process
of collective bargaining is not carried on effectively during the 80-day injunction period,"
and that any settlements which do occur during this period are usually the result of outside
pressure, Smythe, supra, at 829; and 7) that the last offer secret ballot towards the end of the
80-day injunction period not only fails to effect a settlement but "tends to discourage active
bargaining in the most crucial part" of that period by freezing the parties' positions, thus
Nevertheless, the thirty-five year history of the national emergency provisions of the LMRA suggests that they have prevented strikes and lockouts during the eighty-day life of the injunction. There is no apparent reason why worker or employer obedience to injunctions protecting crucial shuttle launch schedules would be less strict. Rather, the shuttle’s defense implications, the national pride in the space program, and the lessons of firm governmental response to the PATCO strike all suggest enhanced respect for such injunctions.

Finally, any lingering doubts about the efficacy of procedures to prevent crippling work stoppages could be resolved by carefully tailoring the details of any transfer to private management. Thus, should the injunction threat be considered inadequate to prevent either wildcat strikes or union sanctioned strikes, the management of the shuttle’s operations could be transferred to private hands while preserving the public employee character of the workers. Already at the local government level, contracts for the performance of various governmental services have been let with increasing frequency to private contractors. It is not unusual for such contracts to provide merely for the performance of managerial and supervisory services by such private entities without changing the status of the governmental employees to be supervised. Were such a model to be followed in the event of a transfer of the shuttle’s operations to private hands, NASA could, at least with regard to potential strikes, slowdowns, and other unauthorized work stoppages, preserve the status quo. NASA’s current employees would remain federal employees, subject to the strike prohibition of the Reform Act, and the criminal penalties for striking that are found in title

“making further concessions which are needed to end the dispute that much more difficult to obtain,” Pierson, supra, at 142; accord Jones, The National Emergency Disputes Provisions of the Taft-Hartley Act: A View From a Legislative Draftsman’s Desk, 17 CASE W. RES. L. REV. 133, 214-15 (1965); Rehmus, supra, at 1060-62.

89. During the 20-year period between 1947 and 1968, for example, injunctions were issued in 25 out of 28 national emergency labor disputes. Of the 20 strikes in progress before an injunction was issued, only two were not immediately halted by the injunction. In the strike of 1949-1950, a temporary restraining order was issued on February 11, 1950, but the miners refused to return to work and the strike continued until agreement was reached on March 5. In the bituminous coal strike of 1948, a temporary restraining order was issued on April 3, 1949, but did not halt the strike until three weeks later when the strikers returned to work from April 24th to 26th. Because they were found guilty of contempt of court, the union president, John L. Lewis, and the union, the United Mine Workers, were fined $20,000 and $1,400,000 respectively. D. Cullen, National Emergency Strikes 56-59, (1968).

90. For example, “[i]n Michigan, three public hospitals are contracting for housekeeping supervision. The workers are public employees, the supervisors are private.” Flint, Public Workers Fear Tax Revolt May Increase Private Contracting, N.Y. Times, July 24, 1978, at 41, col. 1.
18 of the United States Code.91

However, the choice of this model would probably require new legislation, or at least the revision of some existing laws and administrative regulations. Currently, the legal prohibitions against contracting out supervisory services at the federal level are greater than those at the state or local levels. Federal law relating to the Civil Service defines "employee" restrictively.92 To qualify as an "employee" under that law, one must, among other things, "be subject to the supervision of" designated governmental officers or entities.93 This requirement has been strictly construed in a case involving NASA.94

Whether one form of transfer will appeal more to NASA and the federal government than another will of course depend upon a mix of economic, political, scientific, and military factors. What have been examined here are some potential labor law consequences of transferring the shuttle's operational activities to private hands.

Labor Disputes Involving Private Contractors Supplying, Servicing, or Utilizing the Space Shuttle's Operations

Potential labor disputes involving third-party private contractors who supply, service, or utilize the space shuttle raise problems of greater complexity than those disputes between a private operator of the shuttle and its own employees or the federal government and its employees. Not only are a greater number of firms and employees affected, but the types of possible disputes are more numerous.

Independent Contractor Labor Disputes at Shuttle Launch Sites

The Boeing employees' strike at Cape Canaveral shortly before Columbia's first flight95 typifies the disputes examined here. A strike at the launch site, regardless of whether operating responsibility for the launch is with NASA or in private hands, generates different issues than those arising from a third-party labor dispute away from the launch site.

For the reasons discussed in the previous section, an actual or threatened work stoppage by the employees of the independent contractor performing crucial shuttle support services might create a na-

---

93. Id. § 2105(a)(3) (emphasis added).
95. See supra text accompanying notes 3-4.
tional emergency, thereby triggering the operation of the LMRA's national emergency provisions, including the eighty-day federal court injunction and possible ad hoc congressional legislation. If the work stoppage cannot be enjoined because the situation is not a national emergency, the government or private operating authority may still be able to take steps to limit the impact of the dispute.

For example, since the independent contractor's support activities are taking place at the shuttle launch site, a strike by its own employees might be accompanied by picketing directed at the entire launch site. Were this to happen, employees of other independent contractors performing important work at the site might refuse to cross a picket line. Even employees of the operating authority might hesitate to cross a picket line. To prevent the strike against the on-site independent contractor from affecting other entities performing work at the site, a special gate could be established through which only the employees of the struck independent contractor would be permitted to enter and leave. Other gates would be set up for all other persons having business at the launch site: some for the operating authority's own employees and others for the employees of other independent contractors. If the latter gates were picketed by the struck independent contractor's employees, the picketing could be enjoined as an illegal secondary boycott in violation of section 8(b)(4)(B) of the NLRA. As long as the work performed by the employees of the nonstruck employers was "unconnected to the normal operations of the struck employer," nonstriking workers would be immunized from the picketing.

Limiting the scope of the picketing by the employees of the struck independent contractor would not, of course, cause those employees to resume their work. It would, however, reduce the possibility that other launch site activities would be affected by such picketing. As long as those activities can continue without interruption, the impact of the strike by the independent contractor's employees may be minimized.

Independent Contractor Labor Dispute Away From Shuttle Sites

Labor disputes that arise away from the launch site may also seri-

---

96. In the absence of a "reserved" gate, or gates, see infra text accompanying note 97, an employee who has a legal right to strike is deemed to be engaged in such a strike if he or she refuses to cross a picket line at the employer's premises, provided that the refusal is based on principle and not on apprehensions about personal safety. NLRB v. Union Carbide Corp., 440 F.2d 54 (4th Cir. 1971).


98. Id. at 680.
ously affect the shuttle's operation. Firms that manufacture indispensible parts for the shuttle, such as heat resistant tiles or special rocket engines, are vulnerable to labor disputes that could lead to strikes and lockouts. Also, labor disputes involving manufacturers of equipment that the shuttle has contracted to transport could adversely affect the shuttle's operation.

Actual or threatened strikes by employees of a manufacturer of essential shuttle equipment could be enjoined under the LMRA's national emergency provisions so long as shuttle flights can be linked to the national health and safety and the strike or lockout affects a substantial part of an industry.99

However, if past experience in other industries is a guide, one can anticipate that efforts may be made to impose secondary boycotts against governmental or private entities that operate space missions, such as the shuttle flights. For example, a union representing employees of a telecommunications manufacturer might call a strike against the employer who had contracted with the shuttle's operating authority to transport its products into space. To magnify the economic pressure on the manufacturer, the union might also try to cause the shuttle's operating authority to refuse to transport the manufacturer's equipment, that is, to cease doing business with it for the duration of the strike. With this object in mind, the union could cause the launch site to be picketed to induce the operating authority's employees to strike against the operating authority itself, thereby pressuring it to stop doing business with the manufacturer.

Such union activity would constitute a "secondary boycott" which is outlawed by section 8(b)(4)(B) of the NLRA.100 Designed to protect "innocent" employers from being enmeshed in labor disputes that are not their own, and more particularly from inducements directed to their own employees to strike, section 8(b)(4)(B) renders such conduct an unfair labor practice. Where section 8(b)(4)(B) clearly has been violated (as would be the case in the situation described above), the NLRB is required promptly to seek a temporary restraining order in a federal district court against the picketing.101 In addition, section 303 of the LMRA102 gives those who are injured in their business or property as a result of an unlawful secondary boycott the right to recover damages and the costs of suit from the offending union.

99. See supra text accompanying notes 66-80.
There are, however, certain lawful union practices resembling secondary boycotts that could enmesh private shuttle operators in labor disputes that are not their own. For example, the "ally doctrine" provides that if a struck primary employer farms out work to another employer who otherwise would not have performed that work, the latter employer is no longer a "neutral." As a result, picketing and other pressures aimed at inducing the employees of the secondary employer to strike their own employer in order to support the strike against the primary employer do not constitute an illegal secondary boycott.

A shuttle's operating authority could become an "ally" of another struck employer. For example, several companies could each be operating independent shuttle services in the future. One company, which had contracted with a customer to transport equipment or passengers into space, might be struck by its employees. If it steered its customers to another shuttle service, expressly or impliedly requesting that other service to take over its contractual obligations, the second company would become an "ally" if it complied with the request. Even if the "ally's" own employees could not legally strike, picketing at its premises would be permissible at least if it were directed only at persuading consumers from withholding total patronage and not at inducing the commission of a crime, such as a strike by governmental employees. Because such picketing could seriously disrupt the shuttle's operations, the operating authority might want to avoid any conduct that could transform it into an "ally" of an employer that is the object of a primary strike.

Another lawful practice resembling a secondary boycott is "consumer" or "product" picketing. In NLRB v. Fruit and Vegetable Packers, Local 760 (Tree Fruits), the Supreme Court held that a union that engages in a primary strike against Employer A does not violate section 8(b)(4)(B) if it pickets Employer B merely to ask the consuming public to refrain from purchasing Employer A's products that are sold by Employer B. The Court reached this conclusion despite the argument that many consumers confronted by a picket line outside Employer B’s establishment will refrain from entering that establishment

104. This would be the case if the "ally" were the United States Government, or a private entrepreneur to whom the shuttle's operations had been transferred subject to anti-strike and anti-lockout conditions. See supra text accompanying notes 55-57.
entirely, rather than merely avoiding the struck product.  

The Court substantially modified the *Tree Fruits* doctrine in *NLRB v. Retail Store Employees Union, Local 1001 (Safeco)*. In *Safeco*, “product” or “consumer” picketing at Employer B’s premises was held to be unlawful secondary activity where over ninety percent of B’s gross income was derived from the sale of the struck product. In the Court’s view, “[p]roduct picketing that reasonably can be expected to threaten neutral parties with ruin or substantial loss simply does not square with the language or the purpose of Section 8(b)(4)(ii)(B).”

With respect to future space shuttle operations, the possibility of “consumer” or “product” picketing is not great, but cannot be ruled out entirely. The time may come, for example, when roundtrip passenger service on the shuttle becomes commonplace. Passengers may be permitted, either free of charge or for a fee, to see in-flight movies or other forms of entertainment. Under the “consumer” or “product” picketing exceptions to section 8(b)(4)(B), a union engaged in a primary strike against the company producing the movies could lawfully picket the shuttle launch site to appeal to potential passengers to boycott the film after they board the craft. Since the right to view the film would represent only a miniscule portion of the goods or services offered by the shuttle operating authority to its passengers, the boycott could not be said to threaten the operating authority with “ruin or substantial loss.” The picketing would therefore be allowable under *Tree Fruits*, and would not run afoul of *Safeco*’s strictures. However, the shuttle’s operating authority could suffer substantial loss if potential passengers refused to cross the picket line, rather than merely refrained from viewing the in-flight movie.

Another related threat to shuttle operations is the possibility of lockouts by employers who have contracted to supply essential equipment or services to the shuttle. As noted earlier, current Supreme Court doctrine permits an employer, once an impasse has been reached in contract negotiations, to lock out its employees in order to pressure them and their bargaining representative to accept the employer’s bargaining proposals. When an employer locks out its employees, production at the employer’s facility normally comes to a halt.

107. *Id.* at 82-83 (Harlan, J., dissenting).
109. *Id.* at 614-15.
110. See supra text accompanying note 56.
112. Although the Supreme Court has held that employers who lock out to defend a multi-employer bargaining unit may hire temporary replacements for the locked out em-
Obviously, any interruption in the normal operations of a supplier of equipment or services to the shuttle, whether resulting from a strike or a lockout, could disrupt shuttle activities.

Because the "national emergency" provisions of the LMRA are designed to prevent lockouts as well as strikes, lockouts will often be subject to the eighty-day cooling off period and the possible ad hoc congressional legislation contemplated by the Act. Similarly, section 8(d)'s sixty-day notice requirement imposes a limit on the right to lock out.

Also, the shuttle's operating authority could take measures to prevent third-party lockouts that it could not take to prevent strikes. Because the shuttle's operating authority would contract for equipment and services, it could impose contractual conditions upon the employer that could not be imposed upon its employees. The shuttle's operating authority, whether governmental or private in character, could require employers with whom it contracts to agree not to engage in bargaining lockouts. Contracts could provide that an employer's failure to deliver equipment or services would not be excused by the employer's bargaining lockout of its own employees.

The Shuttle in Space: Additional Labor Law Aspects

Introduction

Earlier sections of this Article have examined some labor law problems that may arise from shuttle operations on Earth. The following sections will discuss additional labor law problems which may arise from shuttle operations in space. While some of the circumstances to be examined here could arise on Earth as well, they are nevertheless dealt with here because, when they do occur in space, they assume a special character because of the shuttle's physical isolation from traditional centers of judicial, executive and legislative authority.

Employees, NLRB v. Brown, 380 U.S. 278 (1965), it is unclear whether a single employer who engages in a bargaining lockout is permitted to hire such replacements. Compare Inland Trucking Co., 179 N.L.R.B. 350 (1969), enf'd, 440 F.2d 562 (7th Cir.), cert. denied, 404 U.S. 858 (1971) with Inter Collegiate Press, 199 N.L.R.B. 177 (1972), enf'd, 486 F.2d 837 (8th Cir. 1973). Moreover, it has been suggested that the hiring of permanent replacements by such an employer would clearly violate the Act. R.A. GORMAN, supra note 75, at 361. Regardless of the legality of an employer's hiring temporary or permanent replacements for the employees it has locked out, such replacements, as a practical matter, may be difficult or impossible to find, especially if the jobs to be filled require special skills or training.

114. See supra text accompanying notes 61-63.
Labor Disputes On Board the Shuttle

As long as the governmental character of their employment relationship is preserved, all personnel on board the shuttle in space would appear to be bound by the previously discussed statutes, which prohibit strikes by federal employees and provide penalties for their violation. If crew members, in furtherance of bargaining demands or to exert pressure to settle a grievance, collectively disobey commands from ground control or from a superior officer on board the shuttle, their action could be deemed a strike. Although the strike would be occurring in space, the participants, as federal employee strikers, could be dismissed from employment and be subjected to criminal penalties. Moreover, during shuttle missions the shuttle commander has full authority over all persons aboard to enforce order, and may use force if necessary. Any doubt about the applicability of federal criminal statutes to events in outer space was recently removed by congressional enactment of section 7(6) of title 18 of the United States Code, which states:

The term "special maritime and territorial jurisdiction of the United States," as used in this title, includes:

. . .

(6) Any vehicle used or designed for flight or navigation in space and on the registry of the United States pursuant to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies and the Convention on Registration of Objects Launched into Outer Space, while that vehicle is in flight, which is from the moment when all external doors are closed on Earth following embarkation until the moment when one such door is opened on Earth for disembarkation or in the case of a forced landing, until the competent authorities take over the responsibility for the vehicle and for persons and property aboard.

Clearly, then, criminal penalties can properly be invoked against those

115. This would occur if the shuttle is operated either by NASA or, pursuant to appropriate congressional authorization, by a private company or companies to which only supervisory authority has been transferred. See supra text accompanying note 90.


117. Any person found guilty of violating NASA regulations giving the shuttle commander full authority to enforce order and discipline during all phases of a shuttle flight is subject to a maximum fine of $5,000 or a prison term of one year, or both, pursuant to 18 U.S.C. § 799 (1976). See Mossinghoff & Sloup, supra note 53, at 67-69. Until functioning space stations are established in outer space, the effective administration of such sanctions would presumably have to await the return of the striking federal employees to Earth.


119. Id.
who strike on board a shuttle while it is in flight or during a forced landing.

Moreover, the noncriminal sanctions for federal employee strikes would also appear to apply to strikes on board the shuttle while in space. An American spacecraft in space is analogous to an American ocean-going vessel on the high seas.\textsuperscript{120} Precedents involving such vessels may be useful in analyzing disruptive labor activity on the shuttle.

The NLRB held in \textit{Alcoa Marine Corporation and International Organization of Masters, Mates & Pilots}\textsuperscript{121} that it had jurisdiction over an employer's United States flagship even though the ship was outside of, and would probably not return to, the United States.\textsuperscript{122} The NLRB found the employees on the vessel were not subject to the laws of any foreign country, because they were not engaged in land-based operations. In the NLRB's view, a United States flagship is for legal purposes United States territory, and the laws of the United States, including national labor laws, apply.\textsuperscript{123}

\begin{quote}
\textsuperscript{120} See, e.g., Schachter, \textit{Legal Aspects of Space Travel}, 11 J. Brit. Interplanetary Soc'v 14 (1952): "If we exclude state sovereignty in the outer space what rules will apply? This does not seem to be an insuperable problem. We have an apt analogy in existing international law, viz., the regime of the high seas . . . . [T]he analogy of the high seas can usefully be extended to the spaceships. Each spaceship [including satellite ships], like a vessel, would have a nationality and all such ships would be subject to the applicable laws of the state of nationality." \textit{Id.} at 15. These principles have been incorporated in article VIII of the 1967 Outer Space Treaty, which provides: "A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body." Treaty on Principles Governing the Activities of States In the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, \textit{done} Jan. 27, 1967, 18 U.S.T. 2410, T.I.A.S. No. 6347, 610 U.N.T.S. 205 (entered into force Oct. 10, 1967).
\textsuperscript{121} 240 N.L.R.B. 1265 (1979).
\textsuperscript{122} \textit{Id.}
\textsuperscript{123} Rather than characterizing a United States flagship on the high seas as United States territory for legal purposes without qualification, the NLRB might have more accurately described such a ship as "in the nature of United States territory." The unqualified use of the term "territory," as applied to such a ship, suggests that United States laws and regulations may be exercised over it to the exclusion of the laws and regulations of other nations. While this may be true with respect to American military vessels, it is not true with respect to other types of ships. Convention on the High Seas, \textit{done} Apr. 29, 1958, arts. 8(1), 9, 13 U.S.T. 2312, T.I.A.S. No. 5200, 450 U.N.T.S. 82 (entered into force Sept. 30, 1982). Under the High Seas Convention, merchant ships, in categorical situations, may be stopped and boarded on the high seas by foreign warships. \textit{Id.} art. 22. \textit{See also id.} art. 6(1). In addition, the recognized right of hot pursuit onto the high seas by coastal state vessels also impairs the notion of "territory." \textit{Id.} art. 23. At the same time, there are situations, in addition to the one dealt with in \textit{Alcoa Marine Corporation}, in which a United States ship on the high seas is considered "like" or "in the nature of" United States territory. See, for example, the application of criminal jurisdiction under 18 U.S.C. § 7, discussed \textit{supra} in text.
\end{quote}
That principle would clearly allow the application of the noncriminal law sanctions to federal employee strikes while the shuttle is in outer space. Like an American vessel on the high seas, an American space shuttle in outer space is, for legal purposes, United States territory, or, more accurately, "in the nature of" United States territory. The laws of the United States, including national labor laws, apply to events and relationships on board both types of vessels.

More important, perhaps, the Alcoa Marine Corporation principle would also apply if nongovernmental employees strike on board any future shuttle flight. In such a case, the Labor Act would apply to shuttle "employees" in flight as it now does to "employees" on ocean-going vessels.

The federal mutiny statutes should also be considered. The shuttle is, in important respects, the space analogue of the ocean-going vessel. Although the rights of seamen and women to join unions and engage in other concerted activity are protected by the Labor Act, the Supreme Court has held that a shipboard strike by the crew constitutes the crime of mutiny. In the view of the Court, the federally guaranteed right to strike must accommodate other congressional objectives, such as the prohibition of mutiny. Where Congress has expressly withheld the right to strike from a category of employees (such as federal employees), their striking, one would think, would also violate the federal mutiny law.

An examination of the federal mutiny statutes reveals, however, that they do not apply to events occurring on space vehicles. Whether those statutes will be amended to apply to the shuttle depends on Congress' perception of the present scheme of regulating "insubordinate" conduct by a space vehicle's crew during flight. Notions of symmetry suggest the appropriateness of applying those statutes to such a situation, since a shuttle in space is like a ship on the high seas.

accompanying note 119. George Sloup has suggested that, because of the confusion created by the fiction of "territory," it is preferable to "think of ships, aircraft, and spacecraft as 'technological extensions of a nation-state's presence in non-terrestrial environments,' over which the nation-state retains jurisdiction for various purposes, but not necessarily to the exclusion of the jurisdiction of other nation-states (except for warships and certain other non-commercial, government-owned vessels and aircraft)." Interview, Dec. 2, 1982, with George Sloup, former temporary Attorney-Advisor (1976-77), Expert (1977-80), Office of the General Counsel, National Aeronautics and Space Administration.

124. See supra note 123.
126. 316 U.S. at 47.
On the other hand, Congress could conclude that the federal statute making it a crime willfully to "violate, attempt to violate, or conspire to violate any regulation or order promulgated by the Administrator" of NASA for the protection and security of, among other things, "any spacecraft . . . or similar vehicle," is an adequate substitute for a space oriented mutiny statute.128

Labor Disputes On a Space Station

At least one authority has predicted that the shuttle will make it possible by the end of this century to establish and support "space stations," each populated by several thousand persons.129 In time, the populations of such space stations could become large enough to support the major accoutrements of a functioning legal system: courts and administrative agencies to interpret and apply the law and police to enforce the law. Before then, the space stations could become the scene of numerous labor disputes.

Space station workers likely will be engaged in a greater variety of tasks than shuttle crews, and thus may be more likely to become involved in labor disputes. For example, some of these workers might conduct scientific experiments. Others might construct buildings for personnel and equipment, which would require work similar to that performed by carpenters, bricklayers, electricians, plumbers, plasterers and hod carriers on Earth. Clerical work, operation of computers and word processors, and related tasks would also be common. In short, there are few Earth-based occupations that would not be pursued on a space station.

Besides performing similar tasks, workers in space would resemble their Earthbound counterparts in another significant way. Individual space station workers would suffer from an inherent inequality of bargaining power vis-a-vis their employers. That fact would make it highly desirable that they be granted the same legal rights as terrestrial workers to redress that inequality. Unless concerted labor activity were legally protected, the inequality of bargaining power would have to be corrected by other methods, such as compulsory mediation or arbitration of disputes over significant terms and conditions of employment, or a combination of such approaches.

The resolution of any labor law problems that arise on a space station would, once again, largely depend upon the governmental or

128. Id. §§ 799. See supra text accompanying note 123.
nongovernmental status of the space settlers. Under one hypothesis, all
the space station's inhabitants will be federal employees when they are
transported from Earth and they will retain that status during their so-
journ on the space station. The United States space program has long
evertheless, because of the sensitive nature of the assignment, it is not incon-
ceptible that the government might decide that space settlement should
initially be carried out principally or exclusively by federal government
employees who are subject to the discipline and restrictions federal em-
ployees entail. Thus, many of the first workers sent via the shuttle to
space stations could be civilian employees of the federal government.

It is likely that such federal employees would remain subject to
federal discipline and restrictions while they are on the space station.
Although in certain respects analogous to a stationary land mass on
Earth, such as the Antarctic, the space station is essentially a space ve-
hicle. An apt analogy is to the ocean-going vessel on the high seas
which is not beyond the jurisdiction of the United States.

As federal workers, the space station settlers would be subject to
the prohibition against strikes by federal employees. Criminal penal-
ties for violating that prohibition would be assessable against them
upon their return to Earth. In addition, the less drastic penalty of dis-
missal would also be available against those federal employees who
struck "on board" a space station in violation of federal law.

In short, federal employees in space would be subject to the same
labor law restrictions as their counterparts on Earth. They would also
be entitled to the same labor law benefits, such as those provided by the
Reform Act. Until adequate judicial and administrative agency
structures were established on the space station itself, those on Earth
would have to be used to redress grievances and to facilitate collective
bargaining when these employees returned to Earth. One would hope
that before a space station's population became substantial, the govern-
ment would dispatch personnel relations experts to deal with the day-
to-day problems of the extraterrestrial work place.

Under a second hypothesis, a policy decision may be made to set-
tle the space station with nongovernmental workers. Such workers
would not be subject to the strike prohibition applicable to federal em-
ployees. Congress would have to consider whether private sector em-
ployees on space stations should be covered by the Labor Act, the

131. See supra notes 35-39 & accompanying text.
RLA, or new legislation specially tailored to their situation.132

Congress might find it desirable to apply one or more features of the Labor Act or RLA to the labor relations of nongovernmental space station workers.133 However, during this period of space station settlement and development a better solution would be to: 1) extend to these employees, even though they remained in the private sector, the strike prohibition that now applies to federal employees, and 2) apply to them an appropriately modified version of the Postal Reorganization Act of 1970, again despite the fact that they would be private sector employees. There are compelling policy reasons for this approach.

Private sector strikes can be, and have been, prohibited if their purposes or effects undermine important public interests or policies.134 The policy reasons for prohibiting strikes by private sector space station workers would appear to be as weighty as any used to justify existing restrictions on the right to strike. Until such time as a space station becomes largely self-sufficient, the fragility of the space station’s environment, its dependence upon Earth-based supply channels and support, its potential role in the nation’s military efforts, and the enormous costs that would be involved in transporting space station workers to and from their orbital work sites, all suggest that any labor disputes that occur on those space stations should be resolved by less disruptive methods than strikes and lockouts.

A federal policy against strikes and lockouts on new space stations would, of course, be implicit in a decision to permit only federal employees to work on those stations. Such a decision, whether by Con-

132. If Congress were to decide to cover these employees under the NLRA, it could specifically amend that Act to make this intention clear. If, however, an American space station is analogous to an American vessel on the high seas, such an amendment would be unnecessary. See supra notes 120-28 & accompanying text. By contrast, should Congress decide that the substantive provisions of the RLA are more appropriate than the NLRA for these space employees’ labor relations, specific legislation covering such employees under the RLA would be required, since a space station is analogous to neither a railroad nor an airline, the only two types of entities now covered by the RLA. See supra text accompanying note 54. If Congress develops a labor relations regulatory scheme to apply to employees on a space station it will undoubtedly be spelled out in such new legislation.

133. See supra note 52.

134. For example, strikes aimed at forcing the struck employer to cease doing business with another person may be enjoined as a secondary boycott. See supra notes 101-02 & accompanying text. Equally unlawful under federal law are “jurisdictional strikes” aimed at forcing an employer to assign work to employees in one union or craft rather than another, unless the employer is disobeying an NLRB order or bargaining representative certification. NLR A § 8(b)(4)(D), 29 U.S.C. § 158(b)(4)(D) (1976). In the railroad and airline industries, strikes over grievances are prohibited, see supra note 52, as are those that occur while impasse resolution procedures have yet to be exhausted, see supra notes 58-66 & accompanying text.
gress or the executive branch, could be made in the light of the factors that have just been discussed. However, even if ideological, political, or other considerations cause a transfer of space station tasks to private entrepreneurs, the employee-management provisions of the Postal Reorganization Act, appropriately modified, should be made applicable to space station employees. These employees, unlike federal space workers covered by the Reform Act, would then continue to enjoy the right to bargain over economic issues like other private sector employees. Although they would be prohibited from striking, any bargaining impasses could be resolved by compulsory fact finding or compulsory arbitration.

Some thought should also be given to the long range prospects of space station development. It is important to recognize that the physical area and indigenous resources of a space station may eventually become sufficient to support large populations. Space stations may be able to produce their own food (grown on the station or produced chemically) and manufacture the goods needed for comfortable survival. Among other features of such advanced space stations might be a system of functioning courts, administrative agencies, and legislative bodies. When that stage of space station development is reached, the need to restrict the right to strike or resort to other economic weaponry may be greatly diminished. As space stations become less dependent upon Earth-based supply lines, as the need to transport equipment and workers from Earth to the space station diminishes, and as the military defense of the space stations becomes increasingly possible from positions on the space stations themselves, so will the need to subject space station employees to a specialized labor law regime recede. There would be no reason to withhold from such workers the same right to strike accorded private sector workers on Earth.

135. See supra notes 129-34 & accompanying text.
136. See supra notes 42-45 & accompanying text.
137. See supra text accompanying note 34.
138. See supra text accompanying notes 67-70.
140. Id. at 122-24.
141. Although it has been suggested that "departure from a state-centric system" of international law does not really have to accompany the settlement of outer space, Glazer, Domicile and Industry in Outer Space, 17 COLUM. J. OF TRANSNAT'L L. 67, 70 (1978), some commentators disagree. Id. at 69.