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Author

Kresge, Lisa

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Union Collective Bargaining Agreement Strategies in Response to Technology

Lisa Kresge

Lead Researcher, Technology and Work Program
UC Berkeley Labor Center

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Introduction

This working paper outlines current and historical union responses to technological change in the US. The purpose of this document is to provide a snapshot of how unions leverage their collective bargaining agreements to address technological change. As the examples in this working paper illustrate, unions have been bargaining over technology in the workplace for a long time -- several of the examples date back to the 1940s. Some of the earlier provisions allowed unions to block the introduction of technology in the workplace altogether. However, unions have also focused on negotiating strong provisions that provide the union and workers with consultation and codetermination rights and some degree of economic security with new technologies in the workplace. Unions have successfully negotiated provisions that provide the union with sufficient warning, information, and voice to help mitigate the effects of technological change in the workplace. Several provisions protect workers from displacement or job degradation while others outline the process for implementing technological change or establish a framework for training around new technologies.

This working paper draws from current and historic collective bargaining agreements; scholarly research and government agency reports that analyze collective bargaining agreements and other union responses to technology; interpretations of NLRB rulings and guidance in relation to technology in the workplace; and reporting from the popular press and other online sources. The working paper includes three sections.

1. The first section highlights collective bargaining agreement (CBA) provisions focused on establishing respective rights and roles regarding the decision to adopt and implement new technology.
2. The second section outlines CBA provisions designed to mitigate the introduction of new technology in the workplace.
3. The third section presents CBA provisions related to the use of technology in workforce management.

I. Preemptive rights and decision-making regarding new technology

Unions sometimes include language in CBAs that establish, in advance, their rights and roles regarding the decision to adopt and implement new technology. In some cases, the CBAs outline specific procedures for how labor and management will collaboratively address technological change in the workplace. In addition to providing a brief overview of preemptive rights clauses, this section highlights some of the collaborative labor-management efforts including cooperation agreements, committees, research studies, and workforce planning.

1.a. Labor-management cooperation clauses

Labor-management cooperation clauses essentially combine management rights and union rights clauses into one clause. These clauses stipulate a union’s “pledge to cooperate” along with management’s promise to make efforts to mitigate the negative impact of technological changes on the workforce. Some of these clauses are part of comprehensive technology transition plans negotiated by a union (See the [technology transition plan](#) section below).

Some examples of labor-management cooperation clauses include:

- **Commitment to innovation**: The language used in labor-management cooperation clauses often highlights a joint commitment to technological innovation and change. For example, one CBA states that “The parties support technological advancement, recognizing that it is necessary to ensure an expanding economy” and another CBA includes a statement of commitment “to seeking out new technologies to achieve maximum efficiency in the interest of remaining competitive and preserving jobs for the long term” (See [2019 SEIU-OPEU contract](#), p.99-100; [2012 IAMAW contract](#), p.63-64).
- **Commitment to negotiation**: Some labor-management cooperation clauses specify the right of management to determine technology in the workplace while also recognizing the statutory right of the union to bargain (and management obligation to bargain) over the impact of technology in the workplace or the right of the union to enter into a grievance procedure in the event of an adverse impact (See [2013 AFGE contract](#), p.103 and [DOL \(1966\)](#) analysis of CBAs, p.19-23, 35). Other labor-management cooperation clauses outline a process for introducing new technology into the workplace that requires the employer and the union to enter into a joint agreement process to negotiate new technologies (See [2012 IAMAW contract](#), p.58).
- **Cooperative agreements**: Labor-management cooperation clauses may include language that specifies union and management agreements related to new technologies. For example, some clauses specify that the union agrees to cooperate with technological changes on the condition that management agrees to provide job security and necessary training, or protect job positions/level or “grade”, wages, pay rates, workload, crew sizes, or working conditions (See [DOL \(1966\)](#) analysis of CBAs, p.34-35); and [2015 CWA-BellSouth contract](#), p.376).
- **Collaboration on specific technological changes**: Some labor-management cooperation clauses focus on specific plans for technological change (See the Kaiser LMP the [technology transition plan](#) section below).

1.b. Joint labor-management committees

Joint labor-management committees represent one strategy for unions to have some input in decisions and plans for implementing technological change in the workplace. Technological change committees often include equal representation from the union and employer, with variations on employee representative selection procedures. However, some provisions also include “impartial representatives” such as federal officials or external representatives chosen by the union and management (See the Teamsters and California Processors and Growers Association committee provision in [DOL \(1966\)](#), p.35-36; or another provision on p.58; also see [2017 AFSCME contract](#), p.163 and [2018 IBT-UPS contract](#), p.17).

Examples of joint labor-management committee provisions:

- Advisory and negotiation committees: In many contracts the primary task of the committee is to provide recommendations or to develop a plan for how to implement the new technology into the workplace. Some of these clauses emphasize that the committee serves only an advisory role or as a means to oversee changes in working conditions (See [DOL \(1949\)](#), p.38-43); while others include details regarding grievance and arbitration procedures for disputes in the committee (See [DOL \(1966\)](#), p.35-36).
- Automation transition committees: Some committee clauses are part of comprehensive technology transition plans negotiated by unions. For example, one early contract provision set up an “automation fund” administered by a joint committee of labor and management with an impartial representative to: study problems related to their “modernization program,” make recommendations for solutions, identify and promote employment opportunities to employers impacted by changes, provide training for new job requirements associated with technological change, compensate moving expenses for employees who transfer to another location in the company, develop technology implementation plan outlining terms of seniority rights, transfers, and job relocations, among other provisions (See [DOL \(1966\)](#), p.58-59; also see [2017 AFSCME and SEIU contract](#), p.56-57; [2019 SEIU-OPEU contract](#), p.99-100; and the [technology transition plan](#) section below).
- Career ladder committees: Other committees focus on adapting career ladders to technological changes in the workplace. For example, one union negotiated a “Committee for Technological Change and Automation” that meets to discuss job transitions, job restructuring, career ladder realignment, job training plans, health and safety, etc. (See [2014 NAGE contract](#), p.60-62). Similarly, SEIU-UHW and Kaiser Permanente set up a joint labor-management committee to address ‘advances and attrition’ in technology and changing workforce needs. The committee’s role is to assess: technological changes, potential job restructuring, training program requirements to achieve “modality competency”, and future career ladders associated with these changes (See [2012 SEIU-UHW and Kaiser contract](#), p.230-231, 284-286, 362-372).

- Employee participation and union-management cooperation committees: Some committee provisions focus on the committee’s role in facilitating long-term collaboration to discuss ongoing organizational changes and future needs. Some contracts outline the union’s participatory role in the future of the company in terms of engineering and design decisions, pursuing new business opportunities, monitoring the quality of manufacturing, developing products, and developing training programs for new technology. A [2012 CWA-Qwest contract](#) outlines a committee designed to “review the [technological change] plan prior to its implementation, discuss alternatives and resolutions to such situations, and sponsor the implementation” (p.129-130) (Also see [2015 APWU contract](#), p.6-7, 102-103).

1.c. Research studies and planning

One of the most comprehensive approaches for unions to have a role in shaping the scope and impact of technology in the workplace is through research and study provisions (often in the form of study groups, committees, or task forces). Provisions stipulating research and studies on the impact of technology on the workplace are often part of a joint labor management committee. How the committees use of the information collected varies substantially: some contracts specify negotiation over the results of the study, some contracts include specific topics for research, some outline funding sources for the study, while others restrict the introduction of technology to a trial period to study the impact of technology and state that the final decision regarding the new technology shall be contingent upon the outcome of the research.

Unions may also suggest initiating a study once a company notifies them of a change. For example, the Amalgamated Clothing and Textile Workers Union/Union of Needletrades, Industrial, and Textile Employees (UNITE) countered Xerox’s proposal to subcontract some departments and requested that they set up a joint labor-management committee to study alternative options for keeping the jobs in house. The collaborative process for identifying efficiency and productivity improvements remained in place after the specific discussions concluded (See [Hansen \(2009\)](#), p.26, and [Kochan \(1999\)](#) for a description of the UNITE (ACTWU) and Xerox joint labor-management committee; [DOL \(1972\)](#), p.21).

Examples of research and planning provisions:

- Research study funding: Some contracts establish funds to finance studies of the impact of the technological change on the workforce (See description of joint agreements in meatpacking industry in [DOL \(1966\)](#), p.35, 58-59). Employer firms often provide the funding for research, but some study provisions stipulate government funding as well. For example, a Teamsters and California Processors and Growers Association committee includes funding from the State and Federal Government to study effects of technology in the canning industry (See [DOL \(1966\)](#), p.35-36).

- Research topics: Some contracts outline specific research topics, such as how new technology will impact earnings, seniority, conditions of work, pace of work/rates and workloads on jobs (See [DOL \(1949\)](#), p.38-43; [DOL \(1972\)](#), p.21). Other contracts create committees “to identify potential cost savings and/or productivity/efficiency enhancement/improvements” (See [2017 UFCW-MCGEO contract](#), p.81).
- Trial periods and post-study negotiation: Some contracts specify trial periods for the introduction of new technology to allow for an analysis of working conditions, potential job loss, and terms of work. Other provisions specify that employees receive pay guarantees for trial and experimental periods and that any issues identified during the trial period are subject to arbitration or grievance procedures. And some contracts require negotiation regarding the impact on workload or working conditions with the introduction of new technologies after completion of the study (See [DOL \(1949\)](#), p.38-43; [DOL \(1966\)](#), p.36; and [NEA Report \(1999a\)](#), p.57-60).
- Workforce planning and forecasting: A slight variation to the research and study provisions are workforce planning and forecasting provisions. The Kaiser Permanente Labor Management Partnership contracts include some of the most comprehensive workforce planning provisions. The contracts outline joint labor-management staffing plans associated with new technologies. For example, one SEIU-UHW contract includes a section on job security, education, and training that outlines the areas the employer and union can work together to address “future employment needs” and “enhance the skills, and therefore marketability and employability of the workforce”; the joint effort includes a plan to conduct “workforce forecasting, utilization, and planning”, in which they will: “Forecast and communicate future job trend and emerging skill requirements to Employees, as well as license and certification changes, and new technologies affecting future careers,”; the contract also outlines specific in-house job training programs (See [2012 SEIU-UHW and Kaiser contract](#), p.362-372; and [Kaiser 2012 National Agreement](#), p.26-36).

1.d. ‘Union rights’ clauses

‘Union rights’ clauses in relation to management decision-making to introduce technology include a variety of provisions aimed to guarantee union notification of new technology, insert union voice in the decision-making process regarding new technology, and ensure union participation in the decisions surrounding the implementation of new technology in the workplace. The most comprehensive ‘union rights’ clauses outline all three levels of rights.

Three types of 'union rights' clauses include:

- Right to information and notification
 - The most common 'union rights' provision is the right to advanced notification about any proposed technological changes in the workplace.
 - In addition to advanced prior notice to the union regarding the introduction of new technology, some provisions designate the time period of notification. For example, UNITE HERE negotiated a 165 day notice prior to the introduction of new technologies for Marriott Hotel workers (See [Winslow, 2018](#)). Some also require a detailed outline of the anticipated changes, including the right to know about the use/purpose of the new technology and the impact on job duties (see [DOL \(1949\)](#) analysis of CBAs, p.38-43; also see discussion of IAM in [Ashford and Ayers \(1987\)](#), p.854; [2018 IBT-UPS contract](#), p.17; and [2012 CWA-ATT contract](#), p.47-48).
 - Some contracts outline the specific requirements for a management notification letter, which could include: detailed information about the nature of changes; how operations will change as a result of new technology; how new technology will likely impact employees including locations, employee job security, job titles, and departments; description of work/jobs associated with new technology, and estimated number of employees needed to perform work associated with new technology; and timeline for implementation of new technology (See [2016 CWA-Vassar contract](#), p.62).
 - Another contract provision strategy is to specify the right of the bargaining unit to access information generated by new technology (See [2017 MLB contract](#) p.334-335; [2017 NBA contract](#), p.361).
- Right to negotiate prior to implementation
 - Another 'union rights' clause strategy asserts the union's right to negotiate with management regarding the effects of the new technology on jobs as well as the strategy for introducing the new technology before implementation of the technology.
 - Some CBAs specify the right to bargain over any changes to wages, job titles, workload, hours of work, working conditions, wage rate revision for changes in production, and impact on wages in piece-rate pay systems. Some of these CBAs specify the right of the union to negotiate the terms for how the technology will be implemented - i.e. timing, work group phase-in, sometimes with trial periods for negotiations (See [DOL \(1949\) CBA analysis](#), p.38-47; [NEA Report \(1999b\)](#), p.133-134; and [Winslow \(2018\)](#) and [Diaz \(2018\)](#) regarding UNITE HERE's 2018 negotiations).

- Another approach requires that management discuss the changes with the union to identify ways to lessen the impact of new technology and to identify necessary training requirements (See [2016 CWA-Vassar contract](#), p.62-63).
- Right to participate in decision-making process regarding new technology
 - The most expansive level of ‘union rights’ clauses asserts the union’s right to engage in the strategic decision-making surrounding the adoption of new technologies.
 - Some CBA provisions specify the right of the union to make a final decision regarding the implementation of new technologies. For example, some provisions require "consultation, review, or negotiation" before adoption of technology, with some stipulating that employees had control over the decision to adopt or not adopt a technology (See [NEA Report \(1999a\)](#), p.56-60) while others specify that "affected employees shall be involved in selection and implementation of technological changes" (See [NEA Report \(1999b\)](#), p.130).
 - Similarly, some CBAs outline the right of the union to participate in technological changes via consultation regarding the potential changes, with final decision subject to advanced union approval, or to a grievance procedure, negotiation or arbitration (See [DOL \(1949\) CBA analysis](#), p.38-47).

1.e. Technology restriction clauses

Technology restriction clauses, more common in the mid-20th Century, establish limitations on management’s right to introduce new technology. In recent years, unions have included provisions that establish restrictions, or conditions, on how management can implement new technologies. For example, the 2018 Teamsters contract with UPS prohibits the use of lie detector tests as a condition for employment, amongst other restrictions (See [2018 IBT-UPS CBA](#), p. 33-34).

Some examples of technology restriction clauses include:

- Prohibitions on technology adoption: Some provisions establish prohibitions on introducing new technology during strikes. Other provisions place restrictions on extraneous uses of the technology (such as improper surveillance), restrictions on new technology from increasing workloads of employees, or prohibit management from taking disciplinary actions related to operating new technology (See [DOL \(1949\) CBA analysis](#), p.36-38; [2018 IBT-UPS CBA](#), p. 20).
- Limitations or conditions on the use of new technologies: Rather than establishing prohibitions on the adoption of technology, other provisions place limits on the use of new technologies. For example, some provisions limit the introduction of new technology only to address workload overflow. Other provisions establish requirements for a minimum number

of workers to operate equipment (for safety concerns) or requirements for proper permitting, safety and health procedures for new technology (See [DOL \(1949\) CBA analysis](#), p.36-38).

II. Implementation: Introduction or roll-out of new technology into firm

Some CBAs include language that outlines the parameters and procedures for implementing new technology in the workplace. This section provides a brief overview of clauses designed to: protect incumbent workers jobs and compensation packages, address changes in job tasks and quality, protect or bolster bargaining unit jurisdiction, address job displacement and retraining, and provide opportunities for workforce development to adapt to technological change. The end of this section features some examples of the more comprehensive technology transition plans negotiated by a few unions.

2.a. Job displacement

Job displacement provisions are a set of technology-related clauses commonly found in CBAs. These clauses outline processes to address job loss due to technological changes in the workplace. The topics covered in these clauses include layoff procedures, severance/dismissal pay, supplemental unemployment, and early retirement. Some CBAs include these job displacement clauses as a side-letter or standalone section that outlines a comprehensive transition plan, or ‘automation transition plan.’ Often these job displacement transition plans are part of a labor management partnership or cooperation agreement (See the [technology transition plan](#) section below).

Some examples of job displacement clauses include:

- **Layoffs and seniority:** Clauses that address layoffs often focus on seniority, specifying that senior employees receive priority to keep remaining jobs or priority for new jobs. Some job displacement provisions outline the timing for the phase-in of technology or automation and the layoff schedule for different segments of the workforce (See [DOL \(1949\)](#), p.48-54; [DOL \(1972\)](#), p.19-21; [2017 UFCW-MCGEO contract](#), p.46-47; [2017 OPEIU contract](#), p.33).
- **Compensation:** Many job displacement clauses outline severance pay, early retirement packages, or supplemental unemployment benefits for workers impacted by new technologies. For example, one union created a provision outlining an early retirement buyout program for senior members (e.g. 53+ workers get 80-85% of annual salary until 65) (See [DOL \(1972\)](#), p.19-21; [DOL \(1956\)](#), p.38; [2012 SEIU-UHW-Kaiser contract](#), p.257-272, 381-389; also see [2015 CWA-BellSouth contract](#) p.111-124; and the [technology transition plan](#) section).

- Automation funds: Some unions have successfully negotiated ‘automation funds’. The automation funds provide dismissal pay and early retirement packages to displaced workers. For example, the ILWU and ILA negotiated for automation funds that supported displaced workers and provided a guaranteed weekly income (See [CQ Researcher \(1963\)](#); also see UAW in the [technology transition plan](#) section; [2012 SEIU-UHW-Kaiser contract](#), p.365).

2.b. Job protection and job transfers

Unlike job displacement clauses, job protection or job security clauses protect existing employees, especially employees with seniority, from job loss due to new technologies. These clauses either stipulate a guarantee of job security or outline job transfer processes. In some cases, these job protection clauses address multiple issues that might threaten jobs, not just technological change (e.g. subcontracting, transfers, etc.).

Often unions have developed these job protection or security provisions as part of a labor-management cooperation agreement or comprehensive job displacement plan. For example, in one labor-management agreement developed in the 1990s leading up to a plant relocation and upgrade in a food processor plant, the union and the employer developed a labor-management cooperation agreement in which the employer agreed to a “no-layoff” guarantee and a wage protection guarantee for workers displaced by new technology and the union agreed to flexible work arrangements during the transition along with a temporary suspension of seniority rights for job transfers and work restructuring. (See [Fernandez \(2001\)](#), p.7; also see the Kaiser LMP in the [technology transition plan](#) section below).

Some examples of job protection provisions:

- Layoff prohibitions: Some job protection provisions simply prohibit displacement, dismissals, layoffs or demotions due to new technology and/or prohibit reduction in number of bargaining unit positions (See [DOL \(1949\)](#), p.48; [DOL \(1972\)](#), p.19-21).
- Job transfers: Many job protection clauses guarantee a transfer to a new position for individuals displaced by technology or at least specify that displaced employees will receive preference in future vacancies. These provisions often outline the process for transfer to another job within an existing facility, or different location within the company. Other clauses describe the application process for new positions or set up an internal job placement committee (See [DOL \(1949\)](#), p.49-51; [2017 UFCW-MCGEO contract](#), p.43-44; and [2019 SEIU-OPEU contract](#), p.99-100; also see the [technology transition plan](#) section below).
- Seniority protections: Other job protection provisions specify protections for different classes of workers based on grandfather clauses or years of service. In some cases, clauses specify that employee members are not required to transition to new technology, but have

priority should they choose to adopt the new technology (See [NEA Report \(1999a\)](#), p.56-7; and [DOL \(1949\)](#), 42-43, 49-54).

2.c. Wage and benefit protection

Wage and benefit protection clauses are other common clauses used to address the impact of new technology in the workplace. These 'compensation protection' clauses attempt to maintain wage levels and/or work hours.

Some examples of wage and benefit protection provisions:

- Guaranteed income: Some contracts include "guaranteed income and work hours" or a "work-income agreement" that provide a minimum guarantee for hours and base salary or a maintenance of previous earnings with the onset of new technology (See [DOL \(1949\)](#) analysis, p.48-49; also see the [technology transition plan](#) section below).
- Transition wages and benefits: Another type of clause sets up a schedule for pay changes associated to transfer to lower wage positions (See the Reassignment Pay Protection Plan in [2015 CWA-BellSouth contract](#), p.111-124; [2015 CWA-ATT contract](#), p.69-70).

2.d. Job restructuring and increased productivity

Job restructuring and increased productivity provisions are similar to compensation protection provisions, but instead focus on changes in working conditions associated with new technologies, such as changes in workload, tasks, responsibilities, work schedules, or pace of work.

Some examples of job restructuring and increased productivity provisions:

- Job restructuring: Some job restructuring clauses seek to limit changes (increases) in pace of work, target goals, production, speed, or workload associated with the adoption of new technology, or require negotiation or arbitration over job changes (See [DOL \(1949\)](#) analysis, p.43-47; [NEA Report \(1999a\)](#), p.56-60).
- Productivity gains: Other job restructuring clauses seek to attach increased compensation and benefits for any job changes associated with new technology. For example, one union has crafted provisions - annual bonuses, specialized scheduling, increased time-off, and limits to overtime - to address changing staffing levels for workers who work in facilities that now operate continuously due to automation (See [NEA Report \(1999a\)](#), p.56-57). Some compensation protection clauses address reduced workloads specifying that members maintain pay while working fewer hours as a measure to prevent layoffs. Other provisions specify an increase in wages to accompany the increased productivity resulting from

technology and reduction in labor (i.e. technological innovations requiring fewer people shall be accompanied with increased wages).

2.e. Union jurisdiction

Union jurisdiction provisions set out to protect or expand the bargaining unit during job restructuring associated with new technologies in the workplace. These provisions provide an opportunity for unions to expand membership with the new onset of technologies in the workplace.

Some examples of union jurisdiction provisions:

- Union jurisdiction protection: Some contracts insert limitations on shifting work outside of the bargaining unit, specifying that any new jobs created by the introduction of new technology must fall within the purview of the union. For example, one union contract specifies that the employer provide training to union maintenance personnel on any new equipment introduced in the workplace and stipulates that the maintenance contract period accompanying the new equipment must be used as a training period for in-house maintenance staff (See [DOL \(1972\)](#), p.20, [2012 CWA-Qwest contract](#) (p.9-11), in addition to the Kaiser LMP documents in the [technology transition plan](#) section below).
- Union jurisdiction expansion: Other union jurisdiction provisions specify that persons covered by the contract must be given preference for employment associated with any additional work created by new technology or that new jobs fall within the bargaining unit. For example, the Teamsters 2018 contract stipulates that any new roles or tasks created by technology relevant to the work of the bargaining unit will be assigned to bargaining unit employees and accompanied by training on the new technology ([2018 IBT-UPS contract](#), pg. 18). (See also [2014 LIUNA contract](#), p.22; [2017 OPEIU contract](#), p.33; [2015 APWU contract](#), p.7).

2.f. Workforce training and technology

Many CBA's include workforce training provisions associated with technology. The workforce training provisions cover a variety of topics ranging from simple requirements that employers provide training for new technology to comprehensive training programs for new technologies. Some technology-related workforce training provisions specify details about which workers will receive priority for training, the scope of training to be provided (e.g. that an employer must provide training to employees based on employee need), or the parameters under which employees will receive training (e.g. compensation, time, location).

Some examples of technology-related workforce training provisions:

- Requirement to provide training: Many provisions related to training to mitigate the impact of technological change simply specify that the employer must provide training on new technology or training for existing technology. Some provisions identify which workers will receive priority for training (i.e. based on seniority). Other provisions outline specific training and qualification procedures for incumbent employees in jobs (within job titles or workgroups) or for workers transferred to a new position (See [2017 PSMTC contract](#), p.20-21; [2015 FALJ contract](#), p.21; [2017 UFCW-MCGEO contract](#), p.19; [DOL \(1972\)](#), p.20; and [2015 CWA-BellSouth contract](#), p.168-9 and [2018 IBT-UPS contract](#), p.17-20). Some contracts stipulate that management must provide adequate technical support and training or provide additional training for "employees who demonstrate difficulty" (See [2013 AFGE contract](#), p.103)
- Compensation for training: Some contracts specify that employees must be compensated for training or that the employer will provide training on paid work time or during work hours. Other provisions outline options for employee leaves to obtain necessary training or professional development opportunities (See [DOL \(1949\)](#), p.49-50; [NEA Report \(1999a\)](#), p.3-4; and [NEA Report \(1999b\)](#), p.130-131).
- Training stipends: Some provisions outline funding available for comprehensive training and education to prepare for new technology. For example, the [Kaiser 2012 National Agreement](#) describes the "Taft-Hartley trusts" (SEIU Multi-Employer Trust and Kaiser Coalition Trust) funded by Kaiser to help employees prepare for new technology (p.26-31). Also see this [2015 CWA-ATT contract](#) for a provision on funding training programs and stipends (p.273).
- Committees: Some contracts establish training, retraining, and career development committees to aid in the introduction of technology in the workplace (See 2015 Coalition of Kaiser Permanente Unions-Kaiser master contract, p.31-33; also see examples from the [technology transition plan](#) section below).
- Retraining programs: Some provisions outline various retraining programs for workers to develop skills for new technology in the workplace. The retraining programs provide support for displaced workers and/or help current workers continue to develop skills to adapt to ongoing technological innovations in the workplace (See [OTA \(1983\)](#), p.38-40 and p.88-92 and [Deutsch \(1987\)](#) for a description of IAM, UAW, CWA, and AFL-CIO training programs; also see the [technology transition plan](#) section below). Some provisions are very specific about the technology and training programs. For example, this [2018 UFCW-Kaiser contract](#) outlines the Pharmacy Tech training program and refers to specific computer systems and the parameters for the training (see Appendix K p.60-63). A [2015 CWA-BellSouth contract](#) outlines a joint commitment to employee retention and retraining as data technicians (p.376) (Also see, [2012 CWA-Qwest contract](#), p.148-150). Similarly, the [2012 SEIU-UHW-Kaiser](#)

[contract](#) outlines several specific in-house training programs (see p.365-372). Some unions have negotiated for multi stakeholder retraining programs that involve multiple employers and government entities (See the Keystone Development Partnership and the District 1199C Training and Upgrading Fund in [Wagner \(2010\)](#)).

2.g. Comprehensive technology transition plans

Some unions have developed comprehensive technology transition plans. These plans are often explicitly outlined in side-letters or as part of labor management agreements. Technology transition plans, developed either in anticipation of the introduction of new technology or for a specific planned technological innovation, often outline the process for introducing technological change in the workplace including advanced notification, displacement mitigation strategies, and compensation plans. These plans often address multiple strategies to mitigate the impact of new technology in the workplace including job protection, wage and benefit protection, job restructuring, union jurisdiction changes, job displacement, and workforce training and technology.

Some examples of comprehensive technology transition plans:

- Coalition of Kaiser Permanente Unions Labor-Management Partnership
 - The Kaiser Permanente and the Coalition of Kaiser Permanente Unions signed a labor management partnership agreement in 1997. In 1999, they signed an Employment and Income Security Agreement, or ‘Effects Bargaining Agreement’, which: protects employment security, calls for flexibility and involvement of employees to help implement new systems, develops a process for incorporating new jobs created by new technology into the bargaining unit, outlines a process for displaced employee redeployment and job transition, guarantees training and employee preparation for new technology, funds a coordinator to identify job changes and demands associated with new technology and to oversee the implementation of the agreement, and funds union representatives in the new technology project team (See [1997 KP LMP Founding Agreement](#); [1999 KP LMP Employment and Income Security Agreement](#); [2012 Kaiser National Agreement](#); [2015 KP LMP National Agreement](#); [2012 SEIU-UHW-Kaiser contract](#), p.362-365 and see p.257-272, 381-389 for transition plans for specific technologies; and [Litwin \(2011\)](#), p.871-2).
 - Some individual unions also include side letter provisions related to technological change. Side letters, for example, outline specific plans to address job displacement due to mechanization or technological improvement (such as the transition to the computerized health record system KPConnect). These provisions include: advanced notice, offer of new job and training, and severance pay scale provisions for 5-year employees, with “reasonable efforts for employees with less than 5-years of service” (See [2012 SEIU-UHW-Kaiser contract](#), p.276-277 and p.381-389).

- CWA
 - CWA has negotiated comprehensive technology agreements outlining very detailed processes for maintaining employment security in the context of technological change. The agreements include provisions outlining a ‘Technology Change Committee’, ‘Employment Security Partnership’ and an ‘economic security agreement’ for transitions associated with technological change (See [2015 CWA-BellSouth contract](#), p.111-124 and p.206-221).
 - Some CWA contracts include: a comprehensive outline of the specific process for job transfer along with schedules for supplemental income protection and employee termination allowances, protections for employee pay, schedules for transfer rights, changes in job titles and classifications (job restructuring), parameters for evaluation, career development and retraining programs, and training and retraining committees (See [2015 CWA-ATT contract](#), p.69-70, 270-73; [2012 CWA-Qwest contract](#), p.9-11 and p.127-30. Also see [2012 CWA-ATT contract](#), p.3-31, 47-48; and [Ashford and Ayers \(1987\)](#) p.853).

- IAM
 - In the 1950s, IAM began hosting annual technology conferences to pull together national and local staff members to discuss new technologies that might affect the workplace (See [OTA \(1983\)](#), p.38-39).
 - In the early 1980’s IAM set out to develop comprehensive model contract language to address technological change. The model contract language covers: a definition of new technology, advanced notice, joint consultation, job protection, new jobs, job restructuring, retraining, job transfers and relocations (See [Kennedy, Craypo, and Lehman \(1982\)](#) for the full IAM model contract language for technological change, p.131-139; also see [Ashford and Ayers \(1987\)](#), p.854).
 - IAM also developed a proposal to amend the NLRA and Railway Labor Act to address the impact of new technology on workers and unions (See [IAM New Technology Bill of Rights](#)).

- UAW
 - In the 1980’s and 1990’s, UAW negotiated comprehensive job protection agreements. In 1984, UAW negotiated job security programs in the event of technological change and other operational changes with Ford, GM, and then negotiated a similar program in 1996 with Chrysler.
 - The Protected Employee Program (PEP) at Ford, Job Opportunity Bank-Security Program (JOBS) at GM, and Employment Security System (ESS) program at Chrysler provided job

security to workers with at least one year of seniority. The job security was not maintained in periods of production decline.

- During the 1980's negotiations, UAW also negotiated Guaranteed Employment Numbers (GEN) at Ford and Secured Employment Levels (SEL) at GM in an effort to secure jobs; these numbers were adjusted as people retired - they maintained "one position for every two employees who left the company because of normal attrition (resignation, death, or retirement)". In 1993, UAW negotiated contracts that specified the types of positions given to people in the PEP and JOBS programs. In 2006, GM negotiated an early retirement 'buy-out' program during their bankruptcy proceedings (See [Block \(2006\)](#), p.7-9).
- For a description of these programs, see [DOL \(1956\)](#), p.40; [Ashford and Ayers \(1987\)](#), p.851-853; [OTA \(1983\)](#), p.38-39; and for a description of recent UAW efforts in the educational setting see [2012 UAW contract](#), p.44-47. Also, [Guppta \(2016\)](#) analyzes the future of unions in the era of new technology in which he discusses the 1990s 'KeepGM' multi-stakeholder partnership between the city, UAW, GM management, and the University of Michigan. [Hollister \(2016\)](#) also provides some background on the 'KeepGM' movement.

III. Role of technology in workforce management

Another set of clauses focuses on the role of technology in workforce management. Although this list of provisions most likely does not include all of the potential areas in which technology intersects with workforce management, this section features some current issues that have emerged in the workplace along with some mainstay issues related to technology in the workplace. Some of these clauses address the impact of technology on employee privacy, such as employee monitoring and surveillance, employee internet use and social media activities, and union email communications. This section also presents some union responses to computerized scheduling programs and algorithms. The final part of this section highlights telecommuting, and some health and safety clauses related to technology in the workplace.

3.a. Monitoring, surveillance, and employee privacy

Employers are increasingly adopting employee monitoring and surveillance technologies as a means of workforce management. Monitoring or surveillance technologies include GPS, radio frequency identification (RFID), video camera, voice recording, and other similar tracking technologies. Other areas of technologically enabled employee monitoring include call and computer activity ('keystroke') tracking, lie detector tests, transaction metering, wearable sensors, and handheld or personal devices. [Kaplan \(2015\)](#) also describes the scope of monitoring, surveillance and scheduling technologies (Also see [Adler-Bell and Miller \(2018\)](#), and [Mateescu and Nguyen \(2019\)](#)).

Some unions have responded to these management innovations by successfully incorporating contract provisions that ensure employee and union rights to know about the use of these technologies in the workplace and that limit employers' use of monitoring and surveillance technologies. Several sports unions in particular (such as those representing NFL, MLB, and NBA players) have begun to bargain over biometrics ([Berman 2020](#)). Some examples of these provisions are listed below. Also see this [Massachusetts Nurses Association](#) article outlining potential issues to pursue in collective bargaining agreements (Also see [Kiss and Mosco \(2005\)](#) for an analysis of CBA provisions on electronic monitoring negotiated by unions operating in Canada and the US). In the absence of bargaining, others have used organizing campaigns to pull back the use of surveillance technologies, such as the West Virginia teachers' strike that struck down the use of GO365, a penalizing wellness program (See [Gaffney \(2018\)](#) and [McAlevy \(2018\)](#)).

Examples of monitoring, surveillance and privacy provisions:

- Union and employee right-to-know clauses: Right-to-know clauses are one of the most common types of clauses related to monitoring and surveillance technologies. These provisions outline the right to know, or 'management disclosure', about monitoring technology used in the workplace including the purpose of technology and the impact of the monitoring on job duties. For example, CWA contracts often include a provision about the right to know about the procedures for call monitoring. And the most recent NBA contract includes a provision that allows the players' union to retain experts who can validate devices and set cybersecurity standards associated with the devices. Other contracts include requirements for employees to receive training and information about the functionality of the technologies (See [IAM Protecting Worker Privacy memo](#); [DOL \(1992\)](#) analysis of privacy provisions (including CWA's contract language around call monitoring on p.38-42); [2017 NBA contract](#), p.359-361; [2017 MLB contract](#) p.334-336; [2012 CWA-Qwest contract](#), p.122-123; also see [Watt \(2017\)](#) discussing the wearables CBA provision).
- Union and employee participation and collaboration in decision-making over monitoring technologies: Some contracts include provisions that outline avenues for the union or employees to provide input in the use of monitoring technologies in the workplace. For example, the [2017 NBA contract](#) creates a joint advisory committee to review monitoring practices and wearable technologies and the uses of sensor-derived data (e.g. NBA's "Wearables Committee", p. 359-361). Similarly, the National Football League Players Association (NFLPA) has recently negotiated the NFL's use of sensors, establishing a "Joint Sensors Committee" with representation from both management and the union to review and investigate the NFL's use of sensors on an ongoing basis (See [NFL-NFLPA CBA 2020](#), pg. 291-295).
- Employee data access clauses: Access to data clauses are another type of clause related to monitoring and surveillance technology. These clauses outline the employee right to access

the data or to review the information generated by monitoring and tracking technologies (See [2012 CWA-Qwest contract](#), p.122-123; also see [2017 NBA contract](#), p.359-361).

- Restrictions and conditions on monitoring and monitoring data use
 - **Limits on monitoring and employee right to privacy:** Another type of provision focuses on the parameters for when an employer may monitor employees. For example, one Massachusetts Organization of State Engineers and Scientists contract includes a provision stipulating that employees may turn off GPS technology during lunch and break time, and other non-working hours among other provisions designed to restrict employer use of monitoring technologies (See [Lavitt \(2011\)](#), p.13-15). In another example, the MLB contract states that the use of monitoring technology is “wholly voluntary” and stipulates that there will be no consequences for workers that refuse to participate (See [2017 MLB contract](#), p.334). Furthermore, IAM has proposed sample contract language aimed to limit electronic monitoring to safety and security reasons only or to prohibit electronic monitoring altogether (See [IAM Protecting Worker Privacy memo](#)).
 - **Requiring training and consistency:** Some unions have negotiated from the outset that employees, and managers in particular, receive appropriate training and deploy the monitoring technologies with a level of consistency. For example, the 2012 CWA contract requires training for the managers on the new monitoring technology, but also insists on “uniform guidelines” in the rollout (See [2012 CWA-Qwest contract](#), p.122-123).
 - **Limitations on monitoring technologies for use in employee evaluation:** A few contracts limit the use of monitoring data as a means of evaluating employee performance. For example, the NBA limits the use of data for players’ contract negotiations ([2017 NBA contract](#), p.361). Another recent example from the MLB prohibits data gathered from performance technology and devices from being used to set player salaries ([2017 MLB contract](#), p.22). Similarly, the NFL agreement prohibits data collected from sensors from being used or referenced during a player’s contract negotiations (See [NFL-NFLPA CBA 2020](#), pg. 291-295). Other contracts set parameters for electronic data gathering and specify use of data for evaluation and employee development (See [2012 CWA-Qwest contract](#), p.122-127; [2012 CWA-ATT contract](#), p.215-221).
 - **Limitations on monitoring technologies for disciplinary purposes:** Some contracts include provisions focused on the use of monitoring technology for disciplinary purposes. These provisions may state that monitoring technology may not be the sole data used for disciplinary proceedings (i.e. crime, theft) or that management can only use monitoring data when an employee has committed a crime in violation of federally

mandated regulations or in cases of imminent danger/accident. Some contracts require that the union must have access to recordings prior to disciplinary procedures. Other contracts state that the company may use monitoring technology data for lawful purposes only such as for training, coaching employees (See [2015 CWA-IBT Airline Passenger Service Association tentative agreement](#) p.58; [2012 CWA-ATT contract](#), p.215-221; [2006 IBT airline pilots contract](#), p.143; [2019 ATU contract](#), p.29; [Lavitt \(2011\)](#), p.13-15).

- Grievance rights clauses: Grievance rights over the use of monitoring data is another type of clause included in CBAs. For example, the 2020 NFL contract includes provisions that detail the procedures for submitting a complaint, consequences for violations of the sensor policy, and several terms regarding the data collected from sensors (See [NFL-NFLPA CBA 2020](#), pg. 291-295).

3.b. Internet, social media, and email

Contract provisions addressing social media, internet, and email activities are another approach to protecting worker privacy. These provisions related to internet use and social media are often included in letters of understanding or side letters in CBAs. Although employee oriented social media and internet provisions are somewhat uncommon in CBAs, some unions have begun to issue guidelines to members to help protect them from adverse actions by management. To help protect workers, some unions have taken a proactive member-oriented approach with regard to social media activities. One union response has been to issue guidelines for union and member use of social media in order to avoid negative consequences for social media activities (See [CWA social media guidelines for members](#), [IATSE memo regarding 'employee's legal rights to talk about work on social media](#), and [2015 AFA-CWA social media policy](#)).

Some examples of contract provisions related to internet use, social media, and email:

- Worker's rights: Some contracts outline worker's right to use the email system for occasional personal communications or for communication between bargaining units employees. However, some also delineate parameters for the content of emails. For example, one clause specifies that the emails "shall not contain scurrilous, libelous, disparaging, or otherwise inappropriate material" (See [IAM Protecting Worker Privacy memo](#); [2013 AFGE contract](#), p.148-149). Contract language can also prohibit employers from monitoring employee social media accounts and protect employees from employers trying to access personal social media passwords and accounts (See [IAM Protecting Worker Privacy memo](#)).

3.c. Scheduling

Unpredictable, unstable, and rigid scheduling practices by employers combined with algorithmic computer scheduling systems have led some unions to create provisions to protect workers from these unfair practices. While the unpredictable scheduling practices have been in place for a long time, the use of algorithmic scheduling programs is relatively new. Thus, many scheduling clauses do not directly address the computer systems facilitating some of the practices.

Some examples of contract provisions related to scheduling:

- Clauses around scheduling algorithm practices focus on longer guaranteed hours, higher pay for scheduling flexibility, reporting pay guarantees, increased employee control over scheduled hours and scheduling changes, seniority priority in scheduling, self-scheduling options to pick up or trade shifts, restrictions on the use of online scheduling system to reduce full-time employees, access to scheduling system data reports (for both employee and firm level data), and required advanced notification (See [Bloomberg BNA \(2014\)](#); [National Women’s Law Center \(2015\)](#); [CLASP](#), p.6-10. p.18-20).

3.d. Telework

A few unions have developed CBA provisions outlining parameters for telecommuting. Although only partially related to technological change in the workplace, telecommuting is made possible via technology and easily coincides with employee monitoring and surveillance.

Some examples of contract provisions related to telecommuting:

- Guidelines for teleworking: Some teleworking contract provisions include parameters for telework including the types of arrangements; eligible work classifications; specific expectations; types of technological equipment necessary for eligibility; parameters for a periodic joint labor management review, as necessary; and checklists and contract templates for telework arrangements (See [2013 AFGE contract](#), p.36-49; [2013 UFCW contract](#), p.14).
- Restrictions on extending telework into subcontracting: One contract provision in particular restricts Kaiser Permanente from subcontracting work associated with “Virtual Visits” enabled by new technologies that would otherwise be performed by represented employees, including Licensed Vocational Nurses and Medical Assistants ([Kaiser 2019 Contract](#), p.17-20).

3.e. Occupational health and safety

Health and safety provisions cover a variety of topics related to technology in the workplace. Some of the provisions focus on the health impacts related to the use of computers and other types of technological equipment in the workplace while other provisions focus on exposure to different safety hazards associated with machinery and workplace technologies. Computer workplace ergonomics, video display terminals (VDT), microwave and radio frequencies, lasers, high tech toxics, and biological and chemical technologies are among the health and safety issues related to technology (See [CWA Health and Safety Issue Fact Sheets](#)). Technology-related health and safety clauses tend to focus on four areas: employer responsibilities, oversight and review of health and safety issues related to technology, worker protection, and adopting new technology for safety purposes.

Four types of health and safety provisions related to technology:

- Employer responsibilities for maintaining a safe technologically-enhanced workplace: Clauses that outline the employers' responsibility to protect workers and ensure a safe workplace often stipulate requirements for: regulatory compliance, proper maintenance of equipment and technologies to ensure safety, employee notification of health concerns associated with technology, and employee training on new technology to ensure safety for employees. In addition to specifying that the company must comply with OSHA regulations and other national standards, some contracts also require that contractors and subcontractors comply with health and safety procedures to ensure safe workplace (See [2016 CWA-Vassar contract](#), p.62-63; [Platner, Duke, Zucker \(1991\)](#), (p.10-14) regarding Newspaper Guild and IBT maintenance and training clauses; [2017 UFCW-MCGEO contract](#), p.58 regarding training requirements for new technology; and [NEA Report \(1999b\)](#), p.131; and [CWA \(2017\)](#) regarding recommendations for collective bargaining around health and safety).
- Workplace health and safety committees and technology safety review: Some contracts require the employer to study the impact of new technologies on employee health and safety. Others designate a joint labor-management safety committee to review technologies and their impact on ergonomics and other health and safety issues (See [Platner, Duke, Zucke](#); [2015 UAW-Ford agreement](#), p.189-190 in pdf (172A-173A). and [NEA Report \(1999b\)](#), p.131).
- Worker protection against technology-related hazards: Worker protection provisions often detail issues related to specific technologies and set guidelines to protect worker safety and health. For example, many provisions outline ergonomics considerations in workplace design around new technologies (e.g. computer stations) (See [CWA Occupational Safety and Health Manual](#), p.147-153). Some contracts require equipment stoppages due to hazardous conditions; these are sometimes called 'lockout' or 'tag-out' provisions. Other specify provisions related to interaction with specific technologies, such as video display terminals (VDT) (For sample provisions on a wide variety of safety concerns that could apply to

technology, such as to workload and stress or personal risk from working alone, see [Platner, Duke, Zucker \(1991\)](#), p.10-37).

- Adopting technology to enhance workplace safety: In some cases, unions have negotiated the use of new technology for the sole purpose of protecting the health and safety of workers on the job (See “safety buttons” mentioned here: [KTVU on UNITE HERE Local 2 \(2018\)](#); also see [Kudialis \(2018\)](#)). Though sparse in bargaining agreements, the topic has become of particular interest for unions and employers looking to technology for solutions in protecting “essential workers” during the pandemic.

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