The “Etileno XXI” - Megaproject Experience in Mexico

Managing Workforce Demobilization & Building Livelihoods

Achieving excellence beyond international best practices.

May 25th, 2016

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ACKNOWLEDGEMENTS:
At its heart, this paper tells the story of the work done by the more than 28,000 people who brought their best to make the Etileno XXI Construction Project in Mexico a distinct success; and, particularly, of the creative efforts of a group of solution-driven employees in human resources management that turned the workforce-related challenges of this megaproject into some of its best examples of world-class performance. Odebrecht dedicates this document, first and foremost, to them, and takes this opportunity to thank them again for their commitment to excellence.

Among said personnel, it bares mentioning the innovative and energetic work of the main “doers” of the programs mentioned in this report: Alberto López, Caetano Lopes, Denisse Lagier, Elizabeth Carlson, Emmanuel Riaño, Mariana Hernández, and Viridiana Delgado, among others. ¡Gracias a todos! Thanks as well to Antonio Galvão and Eduardo Bulgarelli at Braskem Idea for their support. A special note of appreciation is extended to Gabriela Rocha and Roberto Frau who provided strategic and quality control support for the efforts surrounding this publication. And of course, Odebrecht wishes to acknowledge the leadership of Eduardo Rozendo and Paulo Levita for maintaining a steadfast vision of what workforce management could and should be at Etileno XXI.

Finally, a wide range of other Project staff members, partners, and associates shared information and insights with the case study writers and served as key sources of qualitative data to humanize the independently impressive statistics. A word of gratitude to each and every one of them.

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FOREWORD:
One thing you can count on from a megaproject is equally mega challenges at every turn. The Etileno XXI Greenfield Ethane Petrochemical Plant Construction Project in Mexico (a total investment of US$5.2 billion with an EPC contract of US$3.6 billion) presented both typical and unique workforce-related challenges from the concept to the execution stages. However, the best way to address such challenges is always through the creativity of people, their innate willingness to serve, and their desire to exceed previous results. With regards to the latter, I am sure that the Etileno XXI experience has much to offer in the way of lessons and illustrations of how a labor management international best practice can be observed, and surpassed, in the real world.

Between 2012 and 2016, Etileno XXI hired a total of over 28,000 direct and indirect workers. I am convinced that these people truly represented the best human resources available at the local, regional, national, and international levels. At the peak of construction, we had over 17,000 employees on-site. Despite the massiveness of these numbers, and through trust in people and in their capacity to progress, the Project was able to recognize and develop the specific talents and skills of each person, make everyone feel part of something special, ensure the best possible working conditions in the industry for women and men alike, and minimize the blow of retrenchment when, as in every construction project, the demobilization curve started to come down. All of these “human resources moments” were intimately linked; providing synergies between, say, contacts made during recruitment to later on liaise workers with other potential employers. They were also connected by cross-cutting priorities throughout all programs, like gender equality and a broader strong focus on antidiscrimination (including age, religion, sexual orientation, and ethnicity).

This paper seeks to recount the history of Etileno XXI’s labor management through the lens of the systems and processes that were developed and put in place for this purpose. Yet it is important to note that none of the results that I consider key—zero fatalities, high productivity, first rate capacity building, quality of life improvements for local communities, satisfaction of client needs, relationship building with the labor union, etc.—would have been achieved without the true commitment of leadership at every level in Etileno XXI. And true commitment cannot be faked; workers definitely perceive the difference between nominal obligation and the kind of assurance that comes from real belief in core values. Finally, it is important to note that a major part of the reason why distinction in workforce management was so inherent in the leadership culture of Etileno XXI was the fact that Odebrecht was not alone in its commitment. In the spirit of true partnership, Technip and ICA Fluor, as part of the EPC consortium, and Braskem Idea, as the sponsor, were all equally convinced of the intrinsic value of investments in the “human factor”. With a true sensitivity for alignment with local history and customs, we continuously found knowledge-based and culturally-appropriate ways of merging international standards and the expectations of our social context in the Coatzacoalcos region.

We hope that the reader of this document finds good examples of how difficult circumstances surrounding human resources are not an excuse for inaction, as well as practical guidance on solutions to labor problems in large, complex projects. But most of all, we hope that we can transmit how very proud we are not just of workforce management in Etileno XXI; but of all the ex-Etileno XXI laborers themselves, who by means of their enthusiasm, hard work, and self-development are now replicating their demonstrated excellence throughout Nanchital, Veracruz, Mexico, and the World.

Eduardo Lima de Rozendo Pinto
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Project Director - Odebrecht Engineering & Construction International—Industrial Engineering
THE ODEBRECHT EXPERIENCE IN WORKFORCE MANAGEMENT AT ETILENO XXI: ACHIEVING EXCELLENCE BEYOND INTERNATIONAL BEST PRACTICES

1. INTRODUCTION

In 2012, led by Odebrecht Engineering & Construction International, with Technip and ICA-Fluor, the Etileno XXI project construction was started, a petrochemical plant with a capacity to process 66 thousand daily barrels of ethane gas, producing over one million tons of polyethylene a year. Etileno XXI is one of the largest petrochemical complexes in Latin America and the most technologically advanced. The Engineering, Procurement and Construction (EPC) contract was valued at $USD 3.6 billion. The plant, with a total investment of $USD 5.2 billion, is owned and operated by Braskem-Idesa, a Mexican company co-owned by Braskem (the petrochemical division of the Odebrecht Group and the largest thermoplastic resin producer in the Americas) and Idesa (an important Mexican company in the petrochemical sector).

The plant includes the following facilities:
- An ethene cracker (from ethane gas) which uses Technip’s proprietary technology;
- Two high-density polyethylene plants, which use technology by INEOS Innovene;
- One low-density polyethylene plant, which uses LyondellBasell technology (Lupotech process);
- Facilities for storage and waste treatment;
- Utilities, including a 150 MW combined-cycle power and steam co-generation plant; and
- Several buildings for administration, maintenance, support and control.

Project Objectives and Main Challenges

As leader of the consortium, Odebrecht’s main objective was to ensure compliance with the EPC contract’s terms and conditions, minimizing cost, and targeting zero accidents at the construction site.

This objective implied facing important challenges such as: maximizing productivity; eliminating the risk of accidents; ensuring corporate security to prevent labor conflicts that could be costly for the company (mainly through labor lawsuits).

The efforts to overcome these challenges and meet the project’s objectives would have to focus on its most important asset, its workforce. It therefore devised a Human Resources Management Model that would allow Etileno XXI to meet its objectives and set higher standards for the industry. The strategy involved primarily going above and beyond minimal law requirements, providing better-than-market working conditions to ensure safety and high productivity levels; the introduction of mechanisms to promote equal access to opportunities for employees’ professional development; and, finally, promoting a sense of belonging to the company by considering employees’ professional needs, while having them embrace institutional values that make them accountable for the project’s results.

Such a strategy aimed to prioritize professional development and to encourage employees’ loyalty to guarantee outstanding results both in the short and long term. While long-term professional development would contribute to capacity building, maximizing productivity and ideally eliminate accidents, employee’s loyalty would positively influence relationship with the union and reduction of recruitment costs through implementation of callbacks in future projects.

However, the abovementioned general objectives – which are at the core of every project undertaken by Odebrecht – needed to take into account, and to effectively respond to, the specific conditions of both the Etileno XXI project and of the region in which the latter was to be built.

The first contextual challenge was finding an adequate and sufficient workforce. The project originated from an opportunity to buy ethane gas from PEMEX at competitive prices, through a public auction, for delivery in the municipality of Nanchital in the southeastern state of Veracruz, Mexico. The Coatzacoalcos–Minatitlán industrial corridor, where Nanchital is located, features several large-scale petrochemical plants, making the availability of skilled labor in the region a reasonable presupposition. However, the skills and number of workers needed for the plant’s construction with an expected peak of over 17,000 workers, and the sheer magnitude and degree of specialization of the project’s required workforce exceeded the local availability, therefore entailing particular staffing challenges.

The second challenge was the local environment at the project site. A baseline study on social conditions in the project’s area of influence collected demographic, economic, cultural, and political data on the surrounding communities and urban context. Among other findings, this study raised several red flags and presented some unique opportunities.

- First, local communities generally did not have a positive perception of existing industrial complexes. They felt these complexes not only did not use enough local labor but also did not have relevant contact with the communities nor engaged in community work for local development.
- Second, existing plants had suffered multiple blockades by local communities complaining about a wide range of issues.
- Third, the area immediately surrounding the plant was settled by communities with considerable vulnerabilities in terms of human development, including rampant unemployment and lack of access to basic utilities, education, and health services.
- Fourth, labor unions in the region traditionally had a leading role that required careful follow up. Wielding a mix of political, economic, and institutional power, it was clear from the onset that any union with which Odebrecht were to work in this project would require active, ongoing management in order to ensure not economic interruptions to the business that could cause workers not to be able to work.
- Fifth, in terms of opportunities, Coatzacoalcos accounted for political conditions that set the grounds for a good relationship between the project and local government: first, the city is the most important municipal capital of Veracruz in terms of political influence on the industrial development of the area; and second, it had important opinion leaders that showed interested in the project and in fostering higher industrial development.
- Finally, potential workforce in the project’s area of influence was found to be very low or non-qualified (14.2% of interviewed households had no education, and in general, only 7.3% had technical or professional credentials). The project took this as an opportunity to develop training programs to improve the skills of the local labor force which in the end would help them get better jobs after the project’s termination.

Furthermore, the international group of banks financing the project, led by the International Finance Corporation (IFC) and the Inter-American Development Bank...
(IDB) required compliance with strict policies and standards, assured through Key Performance Indicators (KPIs). These focused largely on working conditions at the construction site, as well as requiring the project to ensure a positive effect on communities within its area of influence (see Exhibit 1 for a full list). Ensuring compliance with such KPIs called for the development of a strong Human Resources (HR) department, the design of specific protocols, and constant monitoring. Odebrecht identified an opportunity in this challenge and the Etileno XXI team sought to make the project a benchmark for industry best practices.

The final challenge was ensuring that Odebrecht’s core institutional values and philosophy effectively permeated the working environment of the project given the thousands of new hires unfamiliar with the company’s culture. These organizational features are known as the “Odebrecht Entrepreneurial Technology” or TEO for its acronym in Portuguese. TEO is the foundation of the Odebrecht Group culture; at its core, TEO holds true as its most important value to trust in people, and in their capacity and desire to progress. When put into practice, trust between a leader and his team member allow for a planned delegation process which lead to open communication and a results-oriented relationship. This, in turn, allows for the self-development and growth of each member of the company, which contributes to the growth and sustainability of the organization. In its over 70 years of existence, the Odebrecht Group has accounted for more than 190,000 members from 70 nationalities in 28 countries; all of which have been guided by the principles of TEO.

In conclusion, the construction of the plant posed a complex, multi-layer challenge: How to conduct a large-scale and highly technological EPC project, in a socially complex site and region, including a strong and sometimes defying union presence, complying with strict international KPIs; and, all the while, guaranteeing that the Odebrecht Group philosophy be instilled in the job-site from the very day its foundations were laid.

2. THE HUMAN RESOURCES MANAGEMENT MODEL

In order to address the challenges mentioned in the previous section and meet the project’s overall objectives while producing a positive impact on the local set of communities, this section presents the Human Resources Management Model (HRM). The Model had one crosscutting principle: to capitalize upon Odebrecht’s vast experience and corporate philosophy to elevate international principles and standards. This principle was embedded in four objectives:

- **Ensure employee loyalty**: All actions would be based on the foundational conviction that, despite the temporary nature of any construction job, it was in Etileno XXI’s best interest to make sure that its employees were committed to the success of the project, and to guarantee that their satisfaction translated into a positive image of the company;
- **Prioritize employees’ long-term professional development**: the project would aim to provide its employees with every tool and training necessary to conduct their job productively and safely. Once they finished their employment, employees should be able to translate the training and experience they acquired while working at Etileno XXI, into increasingly better job opportunities;
- **Guarantee equal opportunities in employment**: the project would strongly promote a non-discriminatory approach: when hiring, evaluating, and promoting employees, the focus should be on the formers’ knowledge and skills, not on characteristics such as gender, age, religion or sexual orientation; and
- **Promote local development**: Etileno XXI would need to make sure that the local community became involved in the project by implementing social responsibility best practices and hiring/training local labor to the maximum extent possible. The project would ensure that the community actively benefited from this investment and that the project’s local image was explicitly positive.

3. IMPLEMENTATION OF THE MODEL

In practice, the HRM was implemented in three phases patterned after an employee’s relationship with the consortium:

- **Pre-employment**, that included planning, recruitment of potential candidates, selection of suitable candidates, and hiring;
- **Employment**, comprising induction courses, training, development, and the oversight of working conditions; and
- **Post-employment**, including demobilization and connections to new job opportunities.

The following sections provide a very brief description of how the HRM was implemented at each step of the above-mentioned phases. Additional details are provided in Exhibit 2.

**Planning**

The sheer scale and degree of technological sophistication of the construction implied the most significant challenge: initial planning estimates indicated that over 25,000 people would need to be hired throughout the construction period. From a strictly economic point of view, it makes sense to utilize local labor as much as possible. However, engaging local communities in such a way makes them especially vulnerable to a project’s positive and adverse social impacts (e.g. by creating conditions for an employment crisis once the project is over). Consequently, from the planning to the demobilization phases, local engagement and development were prioritized by Etileno XXI.

The planning stage also implied the need to set the legal grounds for all labor relations. Mexican labor laws allow companies to sign collective bargaining agreements with a specific union to establish the work conditions for all non-management positions. It is common practice, in line with Mexican Law, for a company to establish a relationship with only one union; accordingly, Etileno XXI’s owner chose to engage the national Chemical, Petrochemical, Chemical Carbon, Gas and Related Industries Labor Union. The Union, in turn, named the local CTM (Mexican Workers’ Confederation or Confederación de Trabajadores Mexicanos in Spanish) as its representative during the construction phase. CTM, as it is customary in Mexico, tried to participate in the recruitment process by referring its own candidates to be hired by the project.

**Recruitment**

During this stage, the consortium’s overarching purpose was to find the best candidates to fill the project’s labor needs in a timely and cost-effective manner, while prioritizing the use of local labor. Baseline information was collected months before construction activities began, and had identified all communities within the project’s area of influence. These were categorized in three groups: F1 (essentially, localities within a 2 kilometer radius from the project site), F2 (between 2 and 5 kilometers), and F3 (5 and 10 kilometers). 1 In order to maximize recruitment in the direct area of influence of the project (F1 and F2 communities),

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1 F1 communities: Pollo de Oro, Nahualapa, Ejido Lázaro Cárdenas, and Democracia y Libertad; F2 communities: Los Coquitos, Ejido 5 de Mayo, Mundo Nuevo, and El Chapo; F3 communities: Nanchital and Coatzacoalcos.
the HR department, with support from the Social Responsibility team, conducted an additional census to identify people available to work and directly reach out to them.

From the onset it was clear that there was sufficient availability of local labor to fill vacancies for basic civil-works activities, which would allow compliances with two requirements: a) a KPI set by lenders, which stated that at least 85% of the workforce should be local; and b) to accept almost all the candidates referred by CTM. However, it was also evident that there would not be enough workers available in the F1, F2, and even F3 zones to fill all vacancies once electromechanical construction activities began. An additional, complicating issue arose: Union representatives tried to extend its contractually-based influence over recruiting to control the selection process itself, which would lead to inefficiencies and caused friction with the consortium. In this context, the consortium decided to pursue five lines of action:

a) Ask CTM to modify its role regarding hiring and affiliation in such a way that, while CTM could recommend candidates, the consortium had the right to seek and select suitable candidates elsewhere. Also, it was established that all qualified candidates who were not previously affiliated with CTM would be required to do so only as the final step in their hiring process;

b) Install a large recruitment center in the city of Nanchital, located 3.5 miles southwest of the project site. CTM was provided with office space inside the recruitment center;

c) Create a national recruitment strategy dividing the country into six regions and install a recruitment office in each. Regional offices were authorized to conduct the recruitment and selection processes independently from the head office;

d) Design an attractive package for workers hired out-of-town, including a roundtrip bus ticket from the employee’s hometown, two weeks of hotel accommodations followed by a housing allowance, and paid periodic family visits; and

e) Launch complementary efforts, such as a large-scale recruitment fair in Coatzacoalcos, which was attended by about 6,000 people.

Finally, in order to reach – and ideally, surpass – KPIs related to female participation, the HR department designed several elements to entice women to sign up for construction positions, which are traditionally not occupied by women. The most salient ones were: first, making sure that communicational materials clearly stated that the project offered positions for women, in both traditional and non-traditional roles; and second, the implementation of several campaigns to motivate team leaders to include women in their work crews.

Selection

The tailored recruiting efforts produced outstanding results in terms of identifying suitable candidates. However, success in recruitment implied significant challenges for the next phase, which meant processing thousands of applicants to identify and select the most qualified and motivated ones. The HR department settled on a relatively standard process implemented in three main stages:

1. Verifying whether candidates complied with a set of minimal requirements;
2. Performing a job interview; and
3. Undergoing a theoretical and/or practical, technical examination.

The HR team designed, implemented, and constantly monitored protocols to ensure that non-discrimination was effectively implemented; mainly, that candidates should not be judged differentially on the basis of gender, age, or any other personal attribute unrelated to professional capacity and disposition.

Hiring

The HR team designed a simple, standard process for hiring, which would take place at the Nanchital center: successful candidates would undergo a medical examination and, finally, sign a job contract and their affiliation to the Union. The process was eventually tweaked, so that out-of-town candidates were medically screened at clinics located at the six regional centers (and not at Nanchital). This reduced costs and burdens for both Etileno XXI and candidates, by ensuring that people who were medically unfit were identified and notified before making a trip to Veracruz.

The streamlined process enabled the consortium to comply with the project’s extremely-high hiring requirements: by the end of 2014, the HR department had hired a total of almost 21,000 people – a number that would reach more than 28,000 by the end of the project.
Future Etileno XXI’s employee signing his contract

Induction
Introducing new hires to TEO principles, and ensuring that they fully understood the strict safety measures applied at the project site were a top priority, even at hiring peaks. All new employees received a standardized, two-day induction. That of middle-ranking officials also included leadership and team-management training, which implied three additional days. No one was allowed entry to the project site before completing induction. When construction activities called for speedier hiring, the HR department employed additional staff and leased extra facilities to provide induction. Also, induction courses included clear messages about the social importance of the employees’ work, specifically regarding their contribution to local and regional economic development. This was thought of as especially important in a context in which a very large fraction of the workforce was local, and would thus be likely to continue living in the influence area after construction activities were completed.

The strict application of induction protocols allowed the consortium to comply with certain KPIs set by lenders; for instance, that the entire newly hired employees, including subcontractors, had to take induction courses before starting to work. But, more importantly, it provided a strong foundation to meet the goal of building the plant with zero accidents – a highly ambitious one, for an industry which has an average of 1.9 fatalities per 10,000 workers per year, which would have translated to approximately 5 fatalities for a project this size.2

Training
The project’s focus on the employee’s long-term professional development was embedded in their development training program, from the start. Employees were expected to enter the plant with a certain level of skills and knowledge and, after successful culmination of training courses, to leave the project with a stronger and higher level of competencies. This way, each employee would have the opportunity to become a specialist.

Six innovations were added to standard practices regarding training, as different needs arose during the construction. First, early experience showed that the standard practice of designating unskilled positions as “general assistants” (regardless of the specialty of the position to be assisted) and to train them accordingly, was inappropriate: effective productivity levels were found to be substantially lower than expected. Therefore, the consortium decided to modify the design of these positions, tying them to a specific specialty from the get-go and providing specific, on-the-job training to all assistants.

Second, complaints received through a complaints and grievances mechanism implemented at the site (see “Conexión” textbox further down) showed that employees were very concerned with, but did not have a proper understanding of the circumstances that accounted for sexual harassment as well as labor harassment and intimidation, as opposed to leadership and reasonable practices for work discipline. Therefore, the HR department designed a special training course – with a strong focus on practical examples – which was required for all leadership positions. Results were felt immediately, as employees became able to distinguish between valid disciplinary actions and harassment, complaints on the matter dropped by 95%

Third, specialized trainers (e.g. trainers for welders, or carpenters) available in the region were much fewer than needed. Therefore, the consortium designed special training courses for existing employees to become trainers.

Fourth, the specific climate conditions of the project site – which featured heat waves of up to 106°F and humidity levels up to 100% - made it necessary to train all employees on how to avoid dehydration and other potential health and safety problems. Drinking water and ice were amply provided throughout the site, and

2 The project’s total “expected” fatalities was calculated using the rates of workplace fatalities in the construction industry for years 2012, 2013 and 2014 (1.9, 2.1 and 1.8 fatalities per 10,000 workers, respectively) calculated by the Mexican Social Security Institute (IMSS).
every employee was trained to be able to provide first-aid assistance if necessary. These were to go hand in hand with other HSE processes that included behaviour-based safety (BBS) methods, a recognition program that rewards positive safety behavior.

Fifth, as it was clear that the need for a high number of assistants was to be essentially permanent during the construction project, the consortium decided to implement Odebrecht’s proprietary “CREER” program. CREER is a construction-training program designed for people with no previous experience, and limited formal education, which focuses on rapid skill acquisition in specific construction support tasks. Because it enables previously-inexperienced candidates to rapidly enter construction projects, it has positive, strong effects on the attraction of women and in taking advantage of the locally-available workforce. CREER participants were offered a post only if they successfully passed the course’s tests; however, even people who did not pass benefited from the hands-on training, as it fostered the development of general employability skills and implied the receipt of certifications with official validity (in many cases, the trainee’s first-ever diploma).

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<th>Participants of the CREER training program.</th>
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<tr>
<td>Trained</td>
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<td>--------</td>
</tr>
<tr>
<td>Men</td>
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<tr>
<td>Women</td>
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<td>Total</td>
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Employment development

Odebrecht’s TEO calls for a particular focus on developing employees’ potential, which, in practice, translated at Etileno XXI into efforts to promote those new positions, are occupied by existing employees, whenever possible. Therefore, job vacancies were amply communicated at the project site, and team leaders were tasked with identifying team members who had the potential for promotions, and recommending specific training. Ultimately, 13.3% of new vacancies – starting in January 2013 – were occupied by promoting existing personnel. The abovementioned strategy had positive effects in employee loyalty and also resulted in reduced costs for recruiting efforts.

Promotion of women’s employment development

With the goal of increasing women leadership, the project fostered female networking. The consortium provided a space for female employees to gather and have the opportunity to meet other successful, and more experienced, women. The main objectives of networking meetings were to forge closer relationships among female employees and to foster women’s professional development.

Additionally, the project acknowledged that women played a crucial role within the community. Accordingly, the project developed a set of activities to include women in its community engagement efforts. One of the main initiatives was the establishment of cooperatives in five productive activities: poultry raising, tilapia farms, industrial uniform assembly, artisanal manufacturing of cleaning products, and plastics recycling. These small enterprises were integrated 93% by women. In addition, the project developed the “Cae en La Red” (Fall on the Net) program to train entrepreneurs in the community, most of them women, and teach them basic computer skills. In the spirit of non-discrimination, all programs were open both for men and for women. However, female participation was predominant.

Monitoring of working conditions

As was previously mentioned, the project’s lenders required Etileno XXI to develop mechanisms to oversee working conditions and community perceptions on the project, so that any potential risk was identified and mitigated in a timely manner. These obligations were met by using two instruments. The first was a formal protocol for channeling, investigating and responding to complaints, called “Conexión” (see text box below); which was opened to the communities in the area of influence (F1, F2, and F3) as well as to people directly or indirectly employed by the project

<table>
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<tr>
<th>The complaints and grievances mechanism - Conexión</th>
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<td>The mechanism was introduced in October 2012 to receive (by mailbox, phone, e-mail or in person) any complaint that employees or community members, may have had related to the labor environment or the project’s impact in its surroundings. All complaints were reviewed weekly in order to be classified by order of potential risk for the project and to define a follow-up process. The three levels of priority for the complaints were: “High-level”, such as those related to discrimination, sexual harassment, physical assault, or extortion, which were resolved in 20 days; “Medium-level”, such as labor disputes or disagreements on disciplinary measures, which were resolved in 15 days; and “low-level”, such as common labor issues that did not represent any immediate risk to the project, which were resolved in 10 days. This mechanism was considered as a “Social thermometer” of the working environment and conditions.</td>
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The other instrument was a monitoring mechanism, implemented by a specially designated team solely focused on these matters. Two specific topics proved to be critical:

- First, as expected, some out-of-town employees chose to rent temporary accommodations, and many of them did not meet project’s standards; and
- Second, with so many subcontractors, companies of all types and sizes, some performed poorly in terms of providing their employees with all the benefits that the consortium’s employees received, as they were contractually obliged to provide.

To tackle the first issue, the HR department placed the monitoring of housing conditions as a top, day-to-day priority and modified induction courses to reinforce the message that housing allowances were to be used for housing units that met minimum requirements, and that failure to comply was cause for termination. Furthermore, combined efforts by the Social Responsibility and HR department, ensured that the out-of-towners would not end up living in the fragile F1 and F2 communities.

Regarding the subcontractors issue, project’s staff periodically called or visited subcontractors (either randomly or tipped off via the complaints and grievances mechanism) to clarify that their contracts clearly required them to provide their employees with the same benefits that direct employees received. Thus, penalties were included in such contracts for the cases of subcontractors’ failure to comply plant’s construction, indirect employees worked at the administration. Subcontractors were outsourced personnel; they were mainly hired to work at the plant’s construction.

3 The project had three types of employees depending on their functions and contractual relationship: indirect, direct, and subcontractors. Indirect and direct employees were hired directly by the project; while direct employees worked in the
(or show evidence of compliance). These included suspension of payment of invoices. In several cases, the consortium had to withhold payments, until subcontractors fully complied.

Overall, the project achieved labor conditions that were superior to those customary in Mexico. Every employee was granted breakfast, lunch, and free transportation from several points in Coatzacoalcos, Nanchital, and other localities to the construction site and back. New Opportunities was due to the known extensive professional training and high quality safety standards acquired by all Etileno XXI employees. The program included companies that had vacancies in the region as well as nationwide throughout Mexico.

At the end of the demobilization process labor lawsuits came down to 1.4%, considerably less than the 8.4% construction industry average for Mexico.4

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4 The rate of conflict was calculated by dividing the number of plaintiffs in the construction industry (23,358 in 2011, according to INEGI’s statistics on labor relations of local jurisdiction) between the total number of employment loss events in the industry (277,752 in 2011, according to INEGI’s National Survey on Occupation and Employment).
4. RESULTS

Etileno XXI’s workforce management efforts produced outstanding results in all four objectives of the Human Resources Management Model and allowed the project to fulfill its overall objectives.

4.1 Objective 1: Ensure employees’ safety, dignity and loyalty

Several facts provide strong evidence of the success of the project in ensuring that employees worked in a safe environment, in which their personal and professional dignity was duly respected. This, in turn, provided the foundation for a strong sense of organizational belonging, which ensured productivity and a low rate of labor conflicts:

a) Zero fatalities and a low accidents rate

The project’s strong focus on putting employees’ safety and health first resulted in achieving the targeted number of zero fatalities during the four-year construction phase. In 2015, the plant earned the prestigious, international DuPont Global Safety Award, having obtained the highest rating in the history of the award. According to DuPont, results for fatalities, lost time injury rate and recordable injury rate were especially significant achievements in the context of an environment that lacked an HSE mindset before, together with the project scale and complexity.\(^5\)


b) Low rate of labor conflicts

The construction industry is prone to labor lawsuits, strikes and protests: according to data by INEGI, the rate of labor lawsuits against construction companies by former employees is about 8.4%. Comparatively, only 1.4% of the project’s former employees sued the consortium. Moreover: during the four-year construction period, activities were paralyzed due to labor issues only once, in the very beginning, by a period of four labor days; negotiations were carried out and the event was resolved.

\[^6\] The proportion of insured employees for the industry was calculated using the number of insured employees in the construction industry from INEGI’s National Survey of Occupation and Employment.

6 The proportion of insured employees for the industry was calculated using the number of insured employees in the construction industry from INEGI's National Survey of Occupation and Employment.

<table>
<thead>
<tr>
<th>Year</th>
<th>Accident rate (per 10,000 workers)</th>
<th>Fatality rate (per 10,000 workers)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Industry*</td>
<td>Etileno XXI</td>
</tr>
<tr>
<td>2012</td>
<td>350</td>
<td>0</td>
</tr>
<tr>
<td>2013</td>
<td>350</td>
<td>29.3</td>
</tr>
<tr>
<td>2014</td>
<td>290</td>
<td>26.4</td>
</tr>
<tr>
<td>2015</td>
<td>Not available</td>
<td>3.7</td>
</tr>
<tr>
<td>Average</td>
<td>330</td>
<td>57.2</td>
</tr>
</tbody>
</table>

*Source: Industry data from the Mexican Institute of Social Security (IMSS).*

In October 2012, Etileno XXI and the Union agreed to implement a 58.5-hour labor week in order to increase the number of workday hours (10.5 hours per workweek day, 6 hours for Saturdays and 2.5 weekly hours of paid lunchtime). This was higher than the Mexican standard 48-hour labor week and implied a substantial wage increase in comparison to the local and national industry level. Additionally, all employees were formally enrolled in the Mexican Institute of Social Security as required by Mexican law, compared with a 37.7% industry average.\(^6\) This, in turn, translated into high levels of employee satisfaction.

**c) Satisfaction with employment conditions**

In October 2012, Etileno XXI and the Union agreed to implement a 58.5-hour labor week in order to increase the number of workday hours (10.5 hours per workweek day, 6 hours for Saturdays and 2.5 weekly hours of paid lunchtime). This was higher than the Mexican standard 48-hour labor week and implied a substantial wage increase in comparison to the local and national industry level. Additionally, all employees were formally enrolled in the Mexican Institute of Social Security as required by Mexican law, compared with a 37.7% industry average.\(^6\) This, in turn, translated into high levels of employee satisfaction.
d) **Successful callbacks**
Due to changes in the construction strategy, at several points of the construction phase (and especially during January 2016) the consortium needed to rehire positions that were previously demobilized. This ended up representing about 13.6% of all employees. The HR department found that nine out of every 10 past employees that were called back accepted new opportunities at the plant site.

e) **Trust in the company’s complaints and grievances mechanism**
By the end of the construction phase, all employees who filed complaints under the Conexión mechanism expressly included their (optional) identification information. The “identification rate” (as opposed to anonymous complaints) went up steadily, from a few percent by the launch of the mechanism, to 100% by the end of construction.

### 4.2 Objective 2: Prioritize employees’ long-term professional development

The project deployed several strategies throughout its construction that allowed it to ensure, strengthen and foster two main aspects of the employees’ professional situation: their performance during the project and their future employment opportunities. These strategies ultimately showed positive results:

a) **High level of certified training for all employees**
It is not atypical for companies to provide on-the-job training for their employees; it is, however, rare to provide them with certificates for said training. Studies have shown that companies typically shy away from providing certificates because these are expensive and because they fear it will make it easier for employees to leave the company. Odebrecht’s TEO, however, puts a special emphasis on employee’s development. Universal certification proved to be a safe bet and business practice, as it showed a positive correlation with satisfaction levels and low rate of labor lawsuits.

The training programs in numbers
- Total of training sessions: 11,219.
- 2,334 general training sessions (20.9%).
- 8,885 specialized training sessions (79.1%).
- 19.3% development of technical competence, 69.9% health, safety and environment, and 10.8% organizational.
- 192,994 employees attended the trainings: 181,980 (94.3%) men and 11,014 (5.7%) were women.
- Average number of attendees per training program: 17 employees.
- Average number of training courses taken by an employee: 6.1.


### Employees receiving a training certificate by ICATVER

<table>
<thead>
<tr>
<th>Month</th>
<th>Working hours</th>
<th>Training hours</th>
<th>% Training hours/ Working hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul-Sep/14</td>
<td>9,033,597</td>
<td>350,549</td>
<td>3.9%</td>
</tr>
<tr>
<td>Oct-Dec/14</td>
<td>10,216,475</td>
<td>307,250</td>
<td>3.0%</td>
</tr>
<tr>
<td>Jan-Mar/15</td>
<td>9,384,979</td>
<td>344,558</td>
<td>3.7%</td>
</tr>
<tr>
<td>Apr-Jun/15</td>
<td>9,994,186</td>
<td>349,027</td>
<td>3.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38,629,237</strong></td>
<td><strong>1,351,384</strong></td>
<td>3.5%</td>
</tr>
</tbody>
</table>

b) **About one third of employees were promoted during their employment at the project**
The consortium’s strong emphasis in giving existing employees the chance to occupy new vacancies resulted in almost 35% of all employees receiving a promotion during their stay at the Etileno XXI. The figure was even higher for female employees – a highly atypical situation for the construction industry.

Promotions in numbers
- 34.6% of all the employees were promoted.
- From a total of 28,337 vacancies, 13.3% were covered through promotions.
- 43% of women were promoted at least once.

c) **Demobilized employees were linked to new opportunities**
From September 2015 to April 2016, 10,685 employees were demobilized; 6,694 of them (62.6%) went through the Enlace program. Ultimately, 50.7% of the latter received job offers from the participating companies. Moreover, in a survey applied between January and April 2016, to demobilized employees, 93% said the consortium’s treatment during demobilization was good.

Enlace in numbers
- 38 demobilization workshops (25 of them in 2015 and 13 in 2016).
4.3 Objective 3: Guarantee equality of opportunity in employment

An employee cannot realize his or her full potential, in accordance to TEO, if he or she is subject to undue discrimination. As the following facts demonstrate, during the project, women and people of all ages found the chance to be purposefully employed and to build on their personal and professional capacities.

a) Female employment at the construction site significantly surpassed industry standards

6.2% of the total workforce employed to build Etileno XXI was comprised by women, almost twice the industry’s average in Mexico (3.5%). Female participation reached 12.0%, its peak, in the month of December 2015. Women’s low dropout rate, when complemented with the results of Conexión, indicates that the consortium’s efforts against sexual discrimination and harassment were ultimately successful.


- 8,503 promotions: 7.6% were women.
- 17,777 subcontracted employees: 9% were women.
- 53% of women were employed in non-traditional occupations for women in construction (construction works assistant, technician, guard, supervisor, engineer, construction works coordinator).
- The Program CREER: The dropout rate among men was 3.2%, whereas women had a 0% dropout rate. In addition, 94.3% of women received the CREER certification, in comparison with 91.9% of men.

b) High use of the previously-unexperienced, trained-on-the-job workforce

As was discussed in a previous section, the consortium decided it would not let the shortage of candidates in the plant’s area of influence become an obstacle to the project’s successful completion. It chose to train available people both for entry-level (assistant) positions, and for eventual promotions. As a result, from the total of unskilled people hired by the project (7,537) 30.7% eventually went on to occupy a skilled position. This implied significant capacity building for local communities.

Opportunities for employees with no construction–related experience in numbers

- 32 CREER training rounds were implemented (4 of them in 2013, 21 in 2014, and 7 in 2015).
- The consortium designed 15 different training courses for assistants, under different specialities, in lieu of the standard, “one-size-fits-all” courses for general assistants. These specialized courses were taken by 1,681 employees.

4.4 Objective 4: Promote local development

The construction phase of the plant was highly successful in promoting the development of the communities within its area of influence. This is demonstrated by three facts:

9 This number is based on the total workforce of 4,388 in December 2015, of which 526 were women.

The case of Irassema Garduza: an example of Odebrecht’s empowerment policies for women

Irassema Garduza Pulido started her journey at the project as an ironworker assistant, with the ambition of, one day, becoming a specialist welder. A single mother and head of her household, Irassema financially supports her two children, mother, and grandmother. She had already worked in the construction industry so when the opportunity of working at the project emerged, she did not hesitate.

Prior to her entry, she followed a mandatory two-day training program, imparted to assistants. Welding was an activity that attracted her interest and brought her in contact with other welders. She initiated practice on a daily basis.

“I never felt rejected by my peers. On the contrary, they all supported me and always helped me.”

After only two months and a half, she obtained her first promotion, becoming an advanced welder. After six months in that position, she became a specialist welder. Along with her promotions, she received new training programs focused on the development of the necessary skills for her new positions. She is convinced that the training certifications offered by the project will help her find better jobs, with even better working conditions, in the future.

“I had already worked at construction sites and I had never seen the working and safety conditions that this project ensured to its employees.”
a) **The project ensured a large participation of the local labor force**

International lenders required the plant to ensure that at least 85% of unskilled labor was comprised by people living in the immediate area of influence; the actual, final number was 92.2%.

Local participation in numbers

According to the updated social baseline study done in 2014 including F1 communities:

- Local communities increased their income: after the start of the project, 52% of the population in the project’s area of influence earned between $MXN 5,000 and 10,000 monthly, compared to 20% in the baseline study (2011).
- 19% of those surveyed in 2014 had worked in the project at some point: The highest proportion was found in Nahualapa, with 24%.

b) **The construction phase obtained a clear Social License to Operate**

In perception surveys performed in 2013, inhabitants of F1 communities showed a high level of acceptance towards the project. Ultimately, no blockades were carried out by local inhabitants during the four-year construction period. The construction phase, thus, laid the foundation for the plant’s operational phase to enjoy a continued Social License to Operate.

The Social License to Operate in numbers

- 81% of those surveyed thought the project had a positive influence on their lives, while only 4% reported a negative influence.
- 70% of those surveyed had attended at least one of the project’s community meetings.

c) **Social indicators of communities’ wellbeing significantly improved**

Through the implementation of multiple campaigns and workshops, the project endeavored to promote the empowerment of local communities. This feature was closely monitored though the social KPIs, for which Etileno XXI’s compliance was endeavored to promote the empowerment of local communities. This feature was closely monitored though the social KPIs, for which Etileno XXI’s compliance was

Participation of local communities and the project’s area of influence in the project’s workforce

Social indicators of communities’ wellbeing significantly improved

- 46 new local small businesses received indirect economic support from the project.
- From 2012 to 2014, there was a substantial increase of small businesses in the project’s area of influence. Some communities perceived an increase of 800% in the number of businesses (Democracia y Libertad, from 1 business to 9).
- 5 Formalized cooperatives resulting from the productive skills training workshops at the communities. 255 women benefited from this.

Community empowerment in numbers

5. **LESSONS LEARNED**

Odebrecht believes that its experience with the Etileno XXI project yields six insights valuable to any company aspiring to surpass industry standards, while keeping a good-for-the-business, results-oriented mindset. These are:

First, it is possible to conduct a large-scale construction project with no human fatalities. The project’s experience points out that such a goal requires an unwavering emphasis on safety-focused induction courses, and ensuring that no new employee enters the construction site before duly completing his or her induction training. Induction courses, moreover, need to include instructions to specifically address the site’s unique conditions and the potential effects it could produce on the employees’ health, such as the weather.

Second, increasing female participation in a traditionally male-dominated industry is feasible and beneficial, as long as specific steps are taken. Designing entry-level positions so that they do not require previous experience, and ensuring that all required training is provided on-the-job, seems to be beneficial to female participation. At the same time, it promotes local labor participation. However, gender equality concepts and messages must imbue training and supervision activities, so as to counteract potentially-prevaling sexism. Also, the company needs to ensure that a trustworthy complaints and grievances mechanism is put in place so that any relevant events (such as sexual-harassment) are promptly detected and addressed.

Third, a strong focus on helping employees develop their full potential makes perfect business sense. Employing and training previously-unexperienced men and women, and making sure that they receive formal certifications for both training and acquired experience may be costly, but it leads to increased productivity, strong employee loyalty and reduced labor litigation costs, which more than compensate for initial costs. The same logic applies to making sure that employees are comfortable – by providing, for example, free breakfast and lunches.

Fourth, for a large project to be successful, it is key to ensure a clear Social License to Operate even before the first stone is laid at the site. Implementing clear, simple,
trustworthy channels for people in local communities to expound their perceptions and concerns implies “extra” work, but enables the company to understand local needs and tailor social responsibility efforts accordingly. A large-scale construction project must leave a legacy of improved socioeconomic conditions for the communities it influences. Social responsibility efforts need to be understood as part of required investments.

Fifth, institutional values such as those comprised by TEO can be deeply inserted into large-scale projects. The experience of Odebrecht proves that construction can be carried out with a strong focus on people’s personal and community development. Doing so, encourages employee loyalty which translates into higher productivity, talent retention and important cost reductions in recruitment for future projects.

Finally, considering that employment in the construction industry is cyclical, ensuring that employees are provided with all tools and training, including certifications, to be productive and losing the fear to put them in contact with potential employers when the demobilization period comes, will be beneficial for all. To the employees it will mean better job opportunities and for the company, it will guarantee the loyalty that will bring those employees back when another construction project starts.
### Exhibit 1. List of the required Key Performance Indicators (KPIs)

#### Social Key Performance Indicators

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complaints and Grievances Mechanism (Labor)</td>
<td>95% of the complaints, grievances and concerns must be reported to the claimant within 7 business days after its reception.</td>
</tr>
<tr>
<td></td>
<td>100% reception of the mechanism’s guidelines by Etileno XXI’s employees (direct, indirect or subcontractors), during the induction training.</td>
</tr>
<tr>
<td></td>
<td>85% resolution of complaints, grievances and concerns within a maximum of 10 business days for low-level complaints, 15 business days for medium-level complaints and 20 business days for high-level complaints.</td>
</tr>
<tr>
<td>Stakeholders Relations Program</td>
<td>At least 90% of the meetings or communications events, planned in the Stakeholders Relationship Action Plan must take place.</td>
</tr>
<tr>
<td></td>
<td>At least 80% of the surveyed people must consider being properly or well-informed about the project activities during the semi-annual reviews in communities classified as Category I and II.</td>
</tr>
<tr>
<td></td>
<td>100% of the reports must be delivered to the communities.</td>
</tr>
<tr>
<td>Security Forces and Human Rights Management Protocol</td>
<td>95% of all private security staff must go through a Human Rights background check.</td>
</tr>
<tr>
<td></td>
<td>100% of all the private security force must attend Human Rights training courses.</td>
</tr>
<tr>
<td></td>
<td>10% of F1 and F2 communities must receive information about the Security Management Plan.</td>
</tr>
<tr>
<td></td>
<td>90% of complaints received through the Complaints and Grievances Mechanism and related to Human Rights and security forces must be resolved: 90% in 20 days and 95% in six months.</td>
</tr>
<tr>
<td></td>
<td>At least 25% of the private security forces must be comprised of women.</td>
</tr>
<tr>
<td>Complaints and Grievances Mechanism (Community)</td>
<td>100% of the complaints, grievances and concerns must be reported to the claimant within 7 business days of receipt.</td>
</tr>
<tr>
<td></td>
<td>90% of low-level and medium-level complaints received must be resolved within 10 and 15 working days after its registration.</td>
</tr>
<tr>
<td></td>
<td>70% of high-level complaints received must be resolved within 20 business days of reception and 95% within six months.</td>
</tr>
<tr>
<td>Land Acquisition Policy</td>
<td>100% of properties used by Etileno XXI must have access permissions granted by their owners before the start of activities and have evidence of the respective compensation payment.</td>
</tr>
<tr>
<td></td>
<td>100% of properties to be acquired or leased must have a socio-economic profile of the owners/users/employees, an impact and vulnerability evaluation, and evidence that the owners/users/employees have been consulted and are aware of the Etileno XXI acquisition policy.</td>
</tr>
<tr>
<td></td>
<td>100% of those affected by the Workers Accommodation Protocol must have a compensation offer.</td>
</tr>
<tr>
<td></td>
<td>Zero forced evictions in the period, except in cases of expropriation that have had previous negotiations efforts conducted by the state.</td>
</tr>
<tr>
<td></td>
<td>90% of community members with a vulnerable economic situation caused by Etileno XXI must count with the income they had before the start of the Project. The above mentioned income must be reported annually, for the next three years, after the Project starts operations.</td>
</tr>
<tr>
<td>Community Investment Plan</td>
<td>95% of the CAP (Participative Action Committee) scheduled meetings must occur in the scheduled dates.</td>
</tr>
<tr>
<td></td>
<td>85% of participants in CAP meetings must consider the process is “participative” or “very participative” and they feel “satisfied” or “very satisfied” with the CAP process. An evaluation must be conducted after each meeting.</td>
</tr>
<tr>
<td></td>
<td>85% of the agreed investment program must be executed according to the timetable, and 100% in a maximum of 18 months after the start of operations.</td>
</tr>
<tr>
<td>Local Hiring and Induction Protocol</td>
<td>100% of local employees must receive induction training before beginning their activities.</td>
</tr>
<tr>
<td></td>
<td>85% (tending to 95%) of the unskilled labor must be locally hired.</td>
</tr>
<tr>
<td></td>
<td>A proportion of female labor participation must be defined on the first compliance report or three months after the financial closure, whichever comes second.</td>
</tr>
<tr>
<td>Continuing Training Plan</td>
<td>100% of (direct, indirect and subcontractors) employees must receive induction training.</td>
</tr>
<tr>
<td></td>
<td>50% of direct employees must receive certified training that will be useful outside of the project or as professional development.</td>
</tr>
<tr>
<td>Labor Conditions Monitoring Protocol</td>
<td>100% of subcontractors must be registered in a database and classified according to the predefined risk criteria.</td>
</tr>
<tr>
<td></td>
<td>10% of high-risk subcontractors must be personally monitored every month.</td>
</tr>
<tr>
<td></td>
<td>5% of the rest of the subcontractors must be randomly monitored, each month.</td>
</tr>
<tr>
<td>Workers Accommodation Protocol</td>
<td>10% of leased houses by out-of-town employees receiving less than MX $15,000 per month and a monthly housing allowance must be monitored every month.</td>
</tr>
<tr>
<td></td>
<td>100% of leased houses by out-of-town employees receiving less than MX $15,000 per month and a monthly housing allowance must be checked once a year.</td>
</tr>
<tr>
<td></td>
<td>80% of monitored houses considered as inadequate must comply with the required standards within a period of 60 days and 100% in six months.</td>
</tr>
<tr>
<td>Environmental Participative Monitoring Plan</td>
<td>At least one monitoring session must be executed per month for the Environmental Participative Monitoring Plan.</td>
</tr>
<tr>
<td></td>
<td>90% of all the Environmental Participative Monitoring Plan Sessions must have, at least, eight attendees per session.</td>
</tr>
<tr>
<td></td>
<td>90% of attendees must consider that the Environmental Participative Monitoring plan is “informative” or “very informative.” This will be measured through a survey applied to the attendees.</td>
</tr>
<tr>
<td>Influx Management Protocol</td>
<td>There are no KPIs for this category. However, the presentation of reports is mandatory.</td>
</tr>
<tr>
<td>Local Acquisition Protocol</td>
<td>There are no KPIs for this category. However, the presentation of reports is mandatory.</td>
</tr>
</tbody>
</table>
Exhibit 2. The Stages and Processes Involved in the Human Resources Management Model

A. Recruitment

Recruitment is the process of finding the best candidates to fill the project’s needs in a timely and cost-effective manner. Considering the scope of the project and the need for both skilled and non-skilled labor, multiple resources were deployed to advertise the project and attract sufficient staff. However, it soon became evident that there was not enough skilled labor in the locality, and the company had to hire workers from out-of-town by designing local and recruitment strategies to meet all staffing needs. The general process was:

- **Recruitment**
  - Planning:
    - Identification of hiring needs.
    - Development of a local and out-of-town recruitment strategy.
  - Talent attraction:
    - Implementation of a local and out-of-town recruitment strategy.
  - Applications:
    - Receipt of the candidates’ applications.
    - Production of a list of candidates.

B. Selection

The main objective during this stage was to confirm that the candidates were qualified to fill the requirements established for their job positions. A key feature of the whole recruiting and selection process was that the project was never short of qualified HR staff. This group met every Friday, including the HR staff sent to the regional offices, to align objectives and activities to make sure that the recruiting and selection process remained the same across the country.

The HR department defined the following selection process:

- **Selection**
  - Examination:
    - Verification of compliance with minimal requirements.
    - Job interview.
    - Technical examination(s).
  - Candidate selection.

C. Hiring

The administrative hiring process, consisting of two main steps, began after choosing the selected candidates, completing all administrative and legal procedures, and signing the employment contract, as follows:

- **Hiring**
  - Administrative procedures:
    - Receipt of documents.
    - Medical examination.
    - Transportation and lodging in Coatzacoalcos (out-of-town workers only).
  - Signing of contract.

D. Induction

This process consists of formally introducing all new hires to their new jobs and to the organization. It was mandatory for all of the project’s employees. Therefore, the HR department designed an entry protocol including general and HSE induction courses that were normally taught at the Nanchital recruitment center. The process was as follows:

- **Induction courses**
  - General induction.
  - HSE induction.

- **Entrance**
  - Handling of the material and equipment needed for the job.
  - Signing of the acknowledgement of receipt.
  - Beginning of work.
E. Training

This phase consists of presenting information or specific instructions to improve the employees’ performance or to help them attain a required level of knowledge or skill. Etileno XXI developed general training programs as well as specialized training programs, which were available for all employees. The training programs were imparted as needed; however, they became a cross-cutting activity during the entire human resources management process.

**General timeline**

<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td><em>January: Creation of an Inker Training School. October: Integration of a training program to prevent intimidation, harassment, and sexual harassment.</em></td>
</tr>
</tbody>
</table>
| 2015 | *January: Implementation of a CV writing training program.*

**Relevant events**

- **Mandatory induction courses.** These were instituted in September 2012, after which all new hires were required to attend the courses.
- **Safety induction course.** The plant put particular emphasis on employee safety, starting with mandatory induction courses on industrial safety components. Employees were not allowed to start working on their jobs before taking the induction course.
- **Middle management program.** Notwithstanding the fact that many specialists had technical work experience, some were found to have little experience managing teams. Etileno XXI reacted by creating a new induction course for middle management. This course lasted five days and included the basic induction course, plus additional training on safety and leadership.

F. Employees’ professional development

Professional development was defined as the activities, strategies or policies implemented to improve an employee's position within the company. This could be accompanied by specialized training intended to improve professional knowledge, skills, abilities, and performance. In line with training processes, career development activities did not follow specific stages with defined timeframes, considering that promotions were based on individual performance.

G. Monitoring of working conditions

An accurate and constant reporting of working conditions is necessary to ensure basic health and security conditions for employees. In the project, every department leader was primarily responsible for monitoring working conditions while the Social Responsibility Department supervised the monitoring process. Another team was also dedicated to monitoring social indicators. This control process included visits, interviews, and the preparation of monthly reports.

**Relevant events**

- **Identification of precarious living conditions for out-of-town employees.** Compensation for out-of-town employees included a monthly housing allowance. The plant created, as a lenders requirement, a monitoring system, including communication campaigns to raise awareness about the importance of living in adequate quarters and provided employees with information about available housing.
- **Supervision of working conditions for subcontractors.** Etileno XXI ensured identical working conditions for its own employees and the subcontractors’ workers. To enforce those standards, Etileno XXI could hold the approval to pay a subcontractor invoice until they met the established health and safety standards.
- **Introduction of the complaints and grievances mechanism.** It was introduced in October 2012 for employees and the community. The introduction of this mechanism was vital when the scale of the project represented a challenge in terms of monitoring working conditions, and it became a “social thermometer” of the working environment.

H. Demobilization

Demobilization is the process of ending an employee’s contractual relationship. In the project, this represented a challenge given the large number of employees that had to be terminated at the same time, so Etileno XXI developed a demobilization plan. This process included the post-demobilization placement program called “Enlace” (or Liaison, by its translation from Spanish), which was launched as a part of the New Opportunities Program. Enlace introduced demobilized employees to allied companies with job openings in an effort to decrease the unemployment gap and build a sense of gratitude and recognition of demobilized employees. The Labor Relations Department was responsible for the plan and dedicated resources to address the challenge at both the employee and community level with the following steps:

- **Specialized training.** Employee training needed changes as the construction stages moved forward, thereby leading to the planning of specialized training for specific disciplines. For example, the company created a program for former General Assistants to reduce the number of accidents and boost employee productivity by teaching specific construction-related skills.
• General timeline

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• December: First communication to the HR department to notify the workers of the demobilization process.</td>
<td>• August: Introduction of the Demobilization Kit.</td>
<td>• August: Kick-off of the Assisted Demobilization Workshop targeted to all employees.</td>
<td>• Assisted Demobilization Workshop.</td>
<td>• April: The demobilization process is completed.</td>
</tr>
<tr>
<td>• November: First communication to the HR department to notify the workers of the demobilization process.</td>
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<td>• Assisted Demobilization Workshop.</td>
<td>• April: The demobilization process is completed.</td>
</tr>
</tbody>
</table>

• Relevant events
  o **Introduction of the Demobilization Kit.** In August 2013, Etileno XXI took the first steps in creating the benefits package for demobilized employees by giving them a Demobilization Kit that included a folder with all Training Certificates, an Etileno XXI participation certificate, a cap and a backpack.
  o **Assisted Demobilization Workshop.** Targeted to all employees, it provided information about the project’s demobilization process, as well as tools to face post-employment, such as writing a CV, preparing for job interviews, and using jobseeker databases and websites.
  o **Definition of a structured professional challenging demobilization plan.** In December 2014, Etileno XXI completed an impact evaluation study anticipating the massive demobilization expected in 2015. It structured a demobilization plan by including a Conciliation and Arbitration Board for the state of Veracruz in the process and the Job Search Training Program provided by the National Employment Service (SNE by its acronym in Spanish).
  o **Launch of the New Opportunities Program.** In January 2015, the growing need to think about the employee’s future employability crystallized with the creation of this program that included the complete protocol for the demobilization.