

## Great Saltworks of Salins-les-Bains (France)

No 203bis

*Official name as proposed by the State Party:*

From the Great Saltworks of Salins-les-Bains to the Royal Saltworks of Arc-et-Senans, the production of open-pan salt

*Location:*

Franche-Comté Region,  
Doubs and Jura  
Département,  
France

*Brief description:*

The Great Saltworks of Salins-les-Bains have exploited the brine extracted from the considerable underground deposits since the Middle Ages and, in all likelihood, since before that. It is one of the rarer testimonies to the production of open-pan salt (crystallization by heating), with its underground and above-ground buildings and technical facilities still in place.

In the 18th century the Royal Saltworks of Arc-et-Senans were designed as a geographical and technical extension of Salins-les-Bains to make use of the nearby Chaux Forest. A 21km brine pipeline linked the saline resources of Salins-les-Bains to Arc-et-Senans. The Arc-et-Senans saltworks were built by the architect Claude-Nicolas Ledoux, starting in 1775; it was the first large-scale expression of industrial architecture that reflected the progressive ideals of the Age of Enlightenment.

*Category of property:*

In terms of the category of cultural property, as defined in Article 1 of the 1972 World Heritage Convention, the property and its extension form a *group of buildings*.

### 1. BASIC DATA

*Included in the Tentative List:* 1 February 2002

*International Assistance from the World Heritage Fund for preparing the Nomination:* None

*Date received by the World Heritage Centre:* 31 January 2008

*Background:* This is a nomination for the extension of the Royal Saltworks of Arc-et-Senans, inscribed at the 6th session of the World Heritage Committee (Paris, 1982) on the basis of criteria (i), (ii), and (iv).

*Consultations:* ICOMOS consulted TICCIH (The International Committee for the Conservation of the International Heritage).

*Literature consulted (selection):*

Grassias, I., Ph. Markarian, & P. Petrequin, O. Weller, *De pierre et de sel. Les salines de Salins-les-Bains*, Salins-les-Bains, Musée des techniques et cultures comtoises, 2006.

*Technical Evaluation Mission:* 3–6 September 2008.

*Additional information requested and received from the State Party:* A letter was sent to the State Party on 10 December 2008 requesting the State Party to:

- Review the buffer zone for Arc-et-Senans and include the brine pipeline;
- Provide assurances regarding the adoption of the management plan and the implementation of the joint management structure for the two sites; and
- Review the urban development of Salins-les-Bains in the immediate vicinity of the Saltworks and the historical enclosure with the visual impact of the casino.

The State Party sent a reply (80 pages) dated 27 February 2009. An analysis of this documentation is included in this evaluation.

*Date of ICOMOS approval of this report:* 10 March 2009.

### 2. THE PROPERTY

#### *Description*

The property nominated for the extension is made up of the Great Saltworks of Salins-les-Bains, bordered by their historical enclosure between the course of the river Furieuse and the main highway, in the town centre. The boundaries are only partially retained, but they are clearly identifiable within the current urban fabric. The enclosure takes up an extended and sinuous form on its river side and a rectangular form on its town side.

The entrance gate, rebuilt in 1825, is the only surviving part of the enclosure wall that bordered the saltworks on the town side. It is constructed in *grand appareil*, and mounted by a triangular tympanum. The painted inscription, *Ancienne saline nationale* (Former National Saltworks), follows the semi-circular arch of the opening. The enclosure is flanked by two square towers and one round tower.

Above ground, three old buildings have been retained:

- The salt stores and the cooking shops along the Furieuse, two adjoining double-storeyed buildings with an irregular rectangular floor plan;
- The Amont well building providing access to the underground galleries and the extraction well; and
- The former dwelling or part of the Le Pardessus house.

These two-storeyed structures are built of local stone, partly roughcast and partly dressed. The roofs are tiled.

The cooking shop building in which the brine was evaporated to produce the open-pan salt made use of very large rectangular metal stoves. The remains of one stove have been conserved, but they are undergoing restoration because of extensive corrosion.

From 1950 to 2007 the Amont well building housed a casino that was destroyed by fire.

Underground, the two Amont and Grès wells are connected by a tunnel measuring 165m long by 6–7m high, with barrel-vaulted ceilings supported on stiffening arches. Several building campaigns can be discerned in the different types of stonework. A water evacuation channel flows along the length of the tunnel. A number of wooden installations – hydraulic wheels, pumps, and pipes – have survived.

#### *Extension*

The Great Saltworks of Salins-les-Bains is nominated as an extension of the Royal Saltworks of Arc-et-Senans, to which they were connected by a brine pipeline.

The buildings of the Arc-et-Senans Saltworks, near Besançon, were the work of Claude-Nicolas Ledoux. Their construction, which began in 1775 in the reign of Louis XVI, is the first large-scale realisation of industrial architecture that reflects the progressive ideals of the Age of Enlightenment. This vast structure was designed to allow for a rational and structured organisation of labour. The initial construction in a semi-circle was to have been followed by the erection of an ideal city, but this was to remain on the drawing board.

ICOMOS notes that the submission focuses much more on the description of the Royal Saltworks of Arc-et-Senans, which is already inscribed and is well known, than on the Great Saltworks of Salins-les-Bains, which are the subject of the nomination for the extension and the description of which remains vague.

ICOMOS considers that the technical and structural components interconnecting the two sites, notably the pipeline used to transport the brine from Salins to Arc-et-Senans, are an important aspect of the justification for the extension, but they are not very extensively described.

#### *History and development*

The town of Salins-les-Bains has been important since ancient times. In the Celtic period it was a princely site and a major religious centre, and it became an *oppidum* in Roman times.

In the Middle Ages salt helped make it the second most populous town in Franche-Comté, after Besançon. At that time the town had seventeen religious communities and was surrounded by a wall equipped with twenty-five towers. It was also a cultural centre. As early as 1115 two saltworks existed here: the small saltworks at the well in Muire, and the large saltworks or the ‘Great Saltern’ at the Amont well.

For several centuries the town’s economy was based on the extraction of salt, an essential commodity for preserving food and the subject of an important salt tax known as the *gabelle* under French administration.

In the mid-18th century deforestation in the vicinity of Salins and the growing need for salt led to the search for a more favourable location downstream, near the immense Chaux Forest. This was to be the ambitious project for the Royal Saltworks of Arc-et-Senans, studied from 1771 onwards at the end of the reign of Louis XV, and the construction of which began in 1774–75, to be completed

in 1778, in the reign of Louis XVI. However, only half this vast circular industrial project, initially put forward by the architect Claude-Nicolas Ledoux, was ever completed.

Technically, the aim was to use the brine extracted at Salins in Arc-et-Senans by transporting it in a 21km long pipeline. This pipeline was originally installed using pine logs, hollowed out using an auger. Gradually, starting as early as the end of the 18th century, the logs were replaced with iron pipes. The pipeline drops 141m in altitude. Given the material and financial interests of salt under the French *Ancien Régime*, it was permanently monitored along its route by ten guard posts.

Before entering the Royal Saltworks proper, the pipeline fed into the vast timber industrial structure known as the Gradation Building. Measuring almost 500m long by 7m high, it was designed to concentrate the sodium chloride content of the brine by evaporation. The concentrated brine was fed into a 2000m<sup>2</sup> covered tank before being processed using heat in the Royal Saltworks, where the crystallised sodium chloride or open-pan salt was extracted.

The Royal Saltworks began operation in 1779, coinciding with a significant reduction in the production of open-pan salt in Salins, without its ceasing there altogether. The two establishments continued to operate in parallel throughout the 19th century. In 1825 the Great Saltworks in Salins were partially destroyed by a fire. Several buildings and the entrance gate were rebuilt at this time.

Under the Second Empire (1851–70) Salins experienced a period of renewed growth as a spa town. A spa was built here in 1854 on the site of the small saltworks in order to exploit the Muire salt water spring. This led to the town changing its name to Salins-les-Bains in 1926.

As a result of competition starting in the last third of the 19th century from sea salt, which was cheaper to produce and which could be transported across France by rail, production from both sites stagnated and then declined. The Arc-et-Senans production plant ceased operation in 1895. The Gradation Building was finally destroyed in 1920.

In 1940 the Great Saltworks in Salins-les-Bains suffered war damage that led to its being reconstructed after the war, providing it with its current layout.

It, too, also ceased all activity in 1962. The pottery established in 1857 moved in 1997, and the timber industry that had been declining since the end of the 19th century finally closed around 1980.

In 2007 the Le Pardessus building that housed Salins-les-Bains Casino was destroyed by a fire.

The population of the town, which was 8000 in the Middle Ages, had shrunk to 4000 in 1962 and to around 3000 today.

The local economy is based on tourism, the casino, the hospitality industry, and the spa, which is experiencing a renaissance (for the treatment of obesity and Alzheimer’s disease).

*From the Great Saltworks of Salins-les-Bains to the Royal Saltworks of Arc-et-Senans, the production of open-pan salt values*

Arc-et-Senans is the modern extension of the Salins-les-Bains saltworks, which is medieval in origin, since they

used brine from the same mines. However, the old Royal Saltworks of Arc-et-Senans are inscribed on the World Heritage List mainly because of their exceptional architectural value, linked to the work of Claude-Nicolas Ledoux in the 18th century. Nevertheless, their industrial dimension would be emphasised and significantly amplified by their extension to include the Great Saltworks in Salins-les-Bains.

The history of the extraction and production of open-pan salt in one of its most symbolic places in Europe might then be perceived as a long-standing process. It illustrates through its monuments, mining facilities, and technical remains a history spanning the period from the Middle Ages to the early 20th century.

The property presents two opposing concepts of industrial space for exploiting the same resource. They are the products of two very distinct periods – an extraction site integrated into a town where the land-use model dates back to the Middle Ages (Salins), and a modern, totally artificial site, designed in an ideal and rational manner in the 18th century (Arc-et-Senans).

The ensemble of these two saltworks and the remains of the brine pipeline that connects them provide evidence of a form of regional development driven by the exploitation and production of open-pan salt.

### **3. OUTSTANDING UNIVERSAL VALUE, INTEGRITY, AND AUTHENTICITY**

#### ***Integrity and authenticity***

##### ***Integrity***

So far as its industrial and technical integrity is concerned, the historical enclosure of Salins-les-Bains is conserved as a distinct land area. The pumping installations and part of the saline water treatment structures (stoves) retain their integrity. The remaining above-ground buildings have been restored but without any alteration to their volume.

Changes over time mean that only fragments of the medieval complex remain, but the system governing the rapport between the production complex, the town, and the surrounding territory seems to have retained sufficient integrity. However, the disappearance of almost all the surrounding wall, leaving just the former entrance gate standing by itself, has broken down the separation between the saltworks and the urban fabric. Similarly, the new casino undermines the integrity of the site of the Great Saltworks because of its architecture and its location in the heart of the property.

ICOMOS considers that the integrity of the Great Saltworks of Salins-les-Bains is good in terms of the legibility of the industrial location and the techniques historically used to produce open-pan salt.

In response to a request from ICOMOS on 10 December 2008 concerning the technical and geographical link formed by the brine pipeline, today reduced to archaeological remains, the State Party replied on 27 February 2009 with a double change to the buffer zone to include the remains of the brine pipeline and its route along the rivers Furieuse and Loue.

ICOMOS considers that these extensions to the buffer zone boost the property's historical integrity by giving tangible form to the technical and regional link between its two sites.

With regard to the architectural and landscape integrity of the nominated extension, ICOMOS requested on 10 December 2008 an additional analysis from the State Party of the architectural restructuring of the casino and the museum. The State Party replied on 27 February 2009 with a detailed and coherent analysis of the architectural choices and illustrations to back up its arguments. Furthermore, the State Party emphasised its commitment to rejecting pseudo-historical restoration-reconstructions, notably in the case of the Great Saltworks of Salins-les-Bains, formed by a built ensemble the components of which have been restructured on many occasions, both for technical purposes and as a result of other events. The choice was made to adopt an architectural design that was different, identified as such, and respectful of the authentic built remains. The casino's light construction sits on a set of micro-piles that avoid all the archaeological remains identified beforehand in an exploratory excavation. Its footprint adopts that of the former buildings. The same architect has designed an original work, using steel, for the museum and the casino. The enhancement of the tower, at the northern extremity of the site, will be complete once the current restructuring of its environment is finished (removal of a supermarket building and conversion into an open space).

ICOMOS considers that in its restructuring of the site following the fire in 2007 the State Party has made affirmative architectural choices that substantially affect the volumes, perspectives, and landscape appreciation. These choices have been carefully justified by the State Party and they are respectful of the remains and the old buildings and of their imprint on the soil following the fire. Nonetheless, they form a significant change in the volumes and perceptions which alters the visual integrity of the industrial landscape of the saltworks, whilst contributing their own symbolic connotation to the theme of industry (choice of materials, volumes, spatial relationship between the past and present). Furthermore, the old architectural components are in themselves considered to be relatively poor and they are often affected by the restructurings and other events throughout the history of the saltworks. The initial condition of their integrity is therefore limited. In themselves the modernist architectural contributions are and will remain foreign to any potential outstanding universal value of the property overall, whilst affecting its expression as well. The view of the north tower of the former surrounding wall is, for example, considerably altered. The new museum and casino buildings form a limit beyond which it is not possible to go without completely disqualifying the site in terms of its heritage meaning.

##### ***Authenticity***

The remains of the Great Saltworks of Salins-les-Bains are authentic, notably those relating to the old pumps and brine treatment, and testimonies that are very rare in Europe.

The modernist constructions added for the museum and the casino have respected the authenticity of the archaeological remains and the residual old buildings.

ICOMOS considers that the industrial and technical integrity of the property nominated for the extension is satisfactory but that it is limited in terms of its architectural and landscape integrity. The conditions of authenticity are met.

### *Comparative analysis*

The nomination for the original inscription of Arc-et-Senans does not include any comparative analysis.

The comparative analysis of the present submission focuses on salt production sites around the world taken from the World Heritage List or State Party tentative lists. It goes on to consider other French sites of a similar type.

The properties inscribed on the List are the Wieliczka Salt Mine, Poland (1978, criterion (iv)) and the Hallstatt-Dachstein/Salzkammergut cultural landscape associated with the extraction of salt by man, Austria (1997, criteria (iii) and (iv)).

The Sañana salt site is included in the network of mining sites in the Autonomous Region of the Basque Country inscribed on the tentative list for Spain.

A Salt Road Cultural Route appears on the tentative list for Niger. Another potential reference in Africa is the Theghaza-Taoudeni rock salt site in Mali.

In France itself the submission briefly refers to the Aigues-Mortes salt marshes because of their age, but does not refer to other equally old and well preserved sites such as Noirmoutier or Guérande.

The comparison with technically similar sites is limited to the case of the French Département of La Moselle, with Moyenvic and especially the Dieuze saltworks, the French site most comparable to Salins, notably because of the use of a brine pipeline over 10km long. The elements contributed by Salins-les-Bains with regard to the production of open-pan salt are the most complete and the most authentic for this type of salt production.

ICOMOS notes that other important cases with a connection to the salt mining heritage could have also been referred to, notably in Europe, such as the Cardona saltworks in Catalonia or the Bad Reichenhall saltworks in Bavaria which have undergone extensive restoration and attract 400,000 visitors a year. Here the medieval saltworks that had been destroyed by fire were entirely rebuilt at the end of the 18th century and present a heritage that is intact, and where the confrontation between two types of structure is absent. There are also the historic Bex salt mines in Switzerland, the Bad Dürrenberg salt mines in Austria, etc.

The regional heritage and history of salt in the Jura Mountains could also have been referred to because of its geological layer of rock salt, such as in Lons-le-Saulnier, Tavaux, etc.

ICOMOS considers that, from an architectural and spatial organisation point of view, the Salins-les-Bains site is ultimately poor in terms of its buildings and the remains. The industrial landscape revealed here is relatively limited. The opposite can, however, be said with regard to the extraction techniques, notably the existing underground facilities, which testify to the pumping system and the production of open-pan salt.

The property taken as an ensemble stands out from the others and appears to be unique in terms of the complementarities of its technology and of design and organisation of the industrial space between the medieval structure of Salins and that of the ideal and rationalist vision of the 18th century in Arc-et-Senans. This is a regional territory that has been moulded differently and at different periods by the history of the exploitation of brine and the production of open-pan salt throughout its lengthy history.

Given the information available to it, ICOMOS does not consider that any other extensions for this property are possible.

ICOMOS considers that the comparative analysis allows consideration be given to the property already inscribed to include the Great Saltworks of Salins-les-Bains.

### *Justification of the Outstanding Universal Value*

The nominated property, the ensemble of the Great Saltworks of Salins-les-Bains and the Royal Saltworks of Arc-et-Senans, is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The property is exceptional in terms of the extent of the chronological timeframe during which the extraction of salt continued in Salins, from the 5th millennium BCE through to the 20th century, with the growth of the spa activity.
- It is also exceptional in terms of the details of salt production and the ongoing uses in Salins and Arc-et-Senans, founded on a technique to tap sources of salt deep underground, the use of fire to evaporate the brine, and the creative genius inherent in the creation of a 21km pipeline to carry the brine between the two sites.
- This production is therefore different from many other salt-production sites based either on mining or the natural evaporation practised in salt marshes.
- The property is unique in terms of the exceptional architectural quality of the Royal Saltworks of Arc-et-Senans and its distinguished participation in the movement of ideas in the Age of Enlightenment thanks to the visionary architectural project of a ‘model factory’ developed by the architect and supervisor of saltworks in Franche-Comté and Lorraine, Claude-Nicolas Ledoux (1736–1806).
- Arc-et-Senans is the modern and Utopian extension of the Salins-les-Bains saltworks.

### *Justification for the inscription of the original nomination*

The Saltworks of Arc-et-Senans, a factory built with the same sense of architectural quality as a palace, is a sort of Temple of Labour that perfectly illustrates the cultural changes wrought by the onset of industrial society. An essential component of an incomplete city, it is one of the rare examples of the futuristic search for a functional, ideal but not Utopian, urban model.

### *Criteria under which inscription is proposed*

The existing property was inscribed on the basis of cultural criteria (i), (ii), and (iv). However, the justification approved in 1982 by the Committee was not broken down into the individual criteria, but was as follows:

The Royal Saltworks at Arc-et-Senans is an outstanding monument in the history of architecture:

- It is the first architectural complex on this scale and of this standard designed as a place of work. The buildings were designed solely as workshops and workers' dwellings.
- This is the first instance of a factory being built with the same care and concern for architectural quality as a palace or an important religious building.
- It bears witness to a fundamental cultural change in Europe at the end of the 18th century – the birth of industrial society. Besides being a perfect illustration of an entire philosophical current that swept Europe during the Age of Enlightenment, the Royal Saltworks heralded the industrial architecture that was to develop half a century later.
- It is one of the rare examples of visionary architecture. The Saltworks were the heart of an Ideal City which Claude-Nicolas Ledoux imagined and designed encircling the factory. The unfinished Utopian architecture of the Saltworks still carries the full impact of its futuristic message.
- Its semicircle is a permanent appeal to mankind to continue and complete the unfinished task of building the Ideal City.

In its application for the extension, the State Party only sees the contribution of the Great Saltworks of Salins-les-Bains to the new ensemble from the point of view of criterion (iv).

*Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history.*

This criterion is justified by the State Party on the grounds that the saltworks sites of Salins-les-Bains and Arc-et-Senans, connected by the brine pipeline, provide an eminent example of the extraction and production of salt from at least the Middle Ages through to the 20<sup>th</sup> century.

ICOMOS considers that the nominated extension significantly enhances the outstanding universal value of the property from the viewpoint of the technological and industrial values of salt extraction, and especially because:

- The Great Saltworks of Salins-les-Bains provides rare and authentic testimony to the operation of deep brine mines and the system of tunnels and pumping used for this purpose since the Middle Ages;
- The Great Saltworks of Salins-les-Bains provides technical evidence of the preparation of open-pan salt using the system of heated metal stoves;
- Although reduced to traces and remains, the brine pipeline route and its technical facilities bear witness to human efforts to transport brine over long distances and to increase its saline content;

- The ensemble of the two saltworks and their link formed by the brine pipeline and its technical components form a unique example, over a long period of history, of a regional territory moulded by man from the extraction of a mineral resource.

ICOMOS considers that this criterion has been significantly strengthened.

ICOMOS considers that the property nominated for the extension significantly reinforces criterion (iv) and that it contributes to the expression of criteria (i) and (ii) already adopted for the original property.

## **4. FACTORS AFFECTING THE PROPERTY**

### *Development pressures*

Salins-les-Bains is located in the bottom of an open valley, crossed by a main highway that runs along the town's main road and passes in front of the Great Saltworks. At present there are no parking areas: part of the former surrounding wall has been allocated for this purpose. The desire to integrate this previously enclosed space into the open urban fabric risks concealing its historic character.

The casino was located on the site of the former Amont well, but was recently destroyed by a fire. A new casino building was then erected within the actual enclosure of the Saltworks, between the brine treatment buildings and the Flore Tower (see Integrity).

Given the response from the State Party dated 27 February 2009, ICOMOS considers that this type of reconstruction, despite the care taken to respect the authenticity of the remains, is at the extreme limit of what is acceptable. Any further addition would undermine the true meaning of the property.

A project to develop a museum dedicated to the historic site has been well studied from the archaeological and historical aspects, and in theory the entire interior layout is reversible.

### *Tourism pressures*

Each year 50,000 people visit the Great Saltworks in groups under the supervision of a guide. The current planned capacity is for 80,000 people a year, in addition to those who come to the casino located within the enclosure of the saltworks.

ICOMOS considers that a town planning, road traffic, and parking study should be carried out. In its response dated 27 February 2009, the State Party provided information about the current studies of these issues as part of the management plan, with a focus on expressing the property's value.

### *Environmental pressures*

The masonry is weakened by its high content of salt. Consideration is being given to a potential pilot study by specialists to examine which techniques might be employed to desalinate the walls.

The continental climate means there are high differences in temperature (50°C) between summer and winter.

Motor vehicle pollution in this deep valley is for the time being tolerable and without any marked impact on the

property. However, the proximity of the highway along the site is still a factor of pressure.

#### *Natural disasters*

These are mainly due to the high water levels of the river Furieuse which cause flooding.

#### *Impact of climate change*

Climate change is for the time being not directly measurable.

ICOMOS considers that there are no major threats to the property, but that the urban restructuring involving the space of the property must be performed carefully so as to fully respect its values.

## **5. PROTECTION, CONSERVATION, AND MANAGEMENT**

### ***Boundaries of the nominated property and buffer zone***

The inscription zone for the Great Saltworks of Salins-les-Bains includes the entire historical enclosure along with the adjoining section of the river Furieuse (1.91ha).

The buffer zone surrounding the property nominated for the extension corresponds to the perimeter of the Architectural, Urban and Landscape Heritage Protection Zone (ZPPAUP), identified as the extent of the current town up to the heights of its eastern and western hillsides (324ha). It is sufficient.

The inscription zone for the Royal Saltworks of Arc-et-Senans inscribed on the World Heritage List in 1982 remains unchanged (8.57ha).

In its reply dated 27 February 2009, the State Party extended the buffer zone of the Royal Saltworks of Arc-et-Senans to the main access road in line with the entrance pavilions and the archaeological remains of the hydraulic buildings and infrastructure located between the Saltworks and the Loue river. It also extended the buffer zone to include the route of the brine pipeline along the Furieuse and Loue rivers between Salins-les-Bains and the Royal Saltworks of Arc-et-Senans; the area corresponds with the river beds and banks.

The three sections forming the final buffer zone have a total surface area of 797ha.

ICOMOS considers that the boundaries of the nominated extension and the extended buffer zone are adequate.

### ***Ownership***

The Great Saltworks of Salins-les-Bains are owned by the municipality.

### ***Protection***

#### *Legal protection*

The vaulted chamber of the Amont Well in Salins-les-Bains and its pumping machinery were designated an historic monument in 1971 and as such benefit from legal protection.

In 2007 all the above-ground buildings were submitted for historic monument designation. The decision is pending. An Architectural, Urban, and Landscape Heritage Protection Zone (ZPPAUP) has been in place since 1993, and it applies to the protection of the Salins-les-Bains buffer zone.

In its reply dated 27 February 2009, the State Party indicated that the extensions to the buffer zone corresponding to the archaeological remains of the brine pipeline and the intermediate technical facilities were the subject of a request for inscription on the historic monument list. In addition, the section of the buffer zone along the route of the brine pipeline and corresponding to the banks of the two rivers come under the legal protection of the River Contract for the Loue and its affluents (2004).

#### *Traditional protection*

This does not apply to this property.

#### *Effectiveness of protection measures*

According to the State Party the ZPPAUP is a very effective tool for protecting the saltworks and their environment.

The restoration work is supervised by the services of the Regional Department of Cultural Affairs.

ICOMOS considers that the legal protection in place is adequate, but is awaiting the decision regarding the designation of the above-ground buildings of the Great Saltworks of Salins-les-Bains.

ICOMOS considers that the protection measures for the property are adequate.

## ***Conservation***

### *Inventories, recording, research*

There are many publications about Arc-et-Senans. There are clearly fewer about Salins-les-Bains, but an archaeological study of the buildings is under way at the saltworks.

The preliminary studies for the restoration of the remaining stove have been completed.

### *Present state of conservation*

The technical infrastructure of the Great Saltworks of Salins-les-Bains is in good condition and requires attentive maintenance.

The heater building needs to be restored, but the technical components are in place.

The salt warehouse is in a poor state of conservation.

### *Active conservation measures*

In Salins-les-Bains restoration work has been carried out since 1973. The global restoration project aims at restoring the former layout of the industrial site and improving its environment.

A restoration operation for the heater equipment and building is under way in order to maintain these structures as they were when they were in use up until 1962. This is a pilot operation of the Ministry of Culture designed with the support of the Historical Monuments Research Laboratory

and the Research and Restoration Centre of the Museums of France.

Work is in progress on the salt warehouse, which is disused and in poor condition, in order to restore it and install a salt museum there.

#### *Maintenance*

The buildings at both sites are regularly maintained by the relevant services under the supervision of the Regional Department of Conservation of Historical Monuments.

ICOMOS considers that the conservation of Salins-les-Bains requires vigilance; the planned restoration must be completed.

#### **Management**

##### *Management structures and processes, including traditional management processes*

At present, the Arc-et-Senans site is managed by a not-for-profit association, the Claude-Nicolas Ledoux Foundation. It will soon be replaced by a 'State cultural cooperation body,' the installation of which is on the agenda for the November 2008 meeting of the Regional Council of Franche-Comté. The town of Salins-les-Bains will be an active participant in this new structure in order to eradicate the discrepancies in the current management.

In its reply dated 27 February 2009, the State Party provides details about the management structure recently set in place:

- The EPCC (Statutory public sector cultural cooperation organisation) for the management of the Royal Saltworks of Arc-et-Senans has been established;
- Cooperation between the two public entities in charge of the property is defined in a Partnership Charter between the Doubs Département and the Municipality of Salins-les-Bains, under the High Patronage of the Prefect of the Franche-Comté Région. It results in financial and operational commitments under the application of the Management Plan. The Charter was ratified and published in February 2009.
- The various management partners have converted the initial Steering Committee, in operation when the submission was compiled, into a Strategic Policy Committee with its members drawn from the Charter partners, representatives of the Ministry of Culture, the Franche-Comté Région and its various Départements, as well as association partners and conservation and museum professionals. In addition to the Committee, there are three specialist technical commissions responsible for implementing and monitoring the management plan.

ICOMOS considers that the management structure in place is appropriate.

##### *Policy framework: management plans and arrangements, including visitor management and presentation*

An Operational Management Plan has been drawn up; its ratification by the relevant authorities (Région, Départements, and Municipalities) is pending.

This plan covers:

- Protection issues to conserve and restore the monuments taking into account their integrity and their authenticity;
- Development issues to coordinate heritage and cultural promotion and mediation resources and actions;
- Environmental issues to integrate the heritage into its landscape and its territory by reviving the ties between the two saltworks.

Awareness and protection operations have been scheduled starting in 2008: a documentary audit to define a scientific research programme; creation of a joint resource centre; continued restoration of Salins-les-Bains; conservation and preventive study of the archaeological remains in Salins-les-Bains in the underground tunnels; increased accessibility to the underground tunnels, notably for the mobility-impaired; study of a landscape plan to integrate the brine pipeline; and requalification of the importance of the saltworks.

These actions are aimed at obtaining a 'Land of Art and History' agreement.

The development of additional exhibitions about salt in the two saltworks has been announced, along with the extension of the tourist promotion of the *Chemin des gabelous* (Salt-tax collectors' trail) with appropriate signage.

Other actions aimed at enhancing promotion and cooperation include: an international symposium, membership of the European Salt Network, and identifying joint projects to foster economic and technical relations.

In its reply dated 27 February 2009, the State Party provided details about the ratification of the Management Plan and its medium-term application under an Operational Action Plan:

- The ratification of the management structures (Charter and Policy and Strategic Committee) automatically results in the ratification of the Management Plan, through the stakeholders' institutional commitment to its implementation and funding;
- The Operational Action Plan corresponds to the programming of fifteen defined projects, between now and 2014 at the latest, indicating the project cost, schedule, and project manager; eight actions concern knowledge and conservation of the property, four involve mediation and development, and three deal with promotion.

ICOMOS considers that the management plan is effective through the publication of the operational plans and the guarantees for their funding.

##### *Risk preparedness*

The town of Salins-les-Bains is compiling a flood risk prevention plan that will eventually include development recommendations.

##### *Involvement of the local communities*

The new 'Doubs 2010' plan, approved by the Department General Council, wants to 'ensure that the population of

Doubs and Franche-Comté re-appropriate' the Royal Saltworks of Arc-et-Senans.

*Resources, including staffing levels, expertise, and training*

Three tranches of funding are planned for the enhancement of the Great Saltworks of Salins-les-Bains: for 2005–2008 (3,300,000 euros), for 2010–2014 (4,700,000 euros), and the third to be determined at a later date.

The Franche-Comté Région has undertaken to provide financial support for the development of the two sites.

Salins-les-Bains has one full-time manager, one full-time guide, and three or four seasonal guides on its payroll; the municipal services are responsible for maintenance.

Since 1992 the presentation and study of the collections has been handled by the France-Comté Technical and Cultural Museum (sixteen employees).

*Effectiveness of current management*

The two sites are located in two different Départements and are managed separately.

The programme for the promotion and interpretation of the extended property's value would seem at present to be no more than a catalogue of intentions.

ICOMOS considers that management system for the property is adequate and that the implementation of the plan has been guaranteed.

## 6. MONITORING

Three key indicators are used to monitor the property:

- The annual funds invested in the restoration of the two monuments and the frequency of maintenance work.
- The annual funds for operational purposes.
- The variation in annual visitor numbers.

The administrative responsibilities for monitoring are shared between the town of Salins-les-Bains, the Claude-Nicolas Ledoux Institute, the Franche-Comté Regional Department of Cultural Affairs, the Doubs Departmental Architecture and Heritage Service, that of the Jura, and the Franche-Comté Technical and Cultural Museum.

However, there is no coordination structure planned for monitoring.

ICOMOS considers that the monitoring is satisfactory but that a coordination structure should be set in place.

## 7. CONCLUSIONS

ICOMOS recognises the significant boost to the outstanding universal value of the property of the former Royal Saltworks of Arc-et-Senans by its extension to include the Great Saltworks of Salins-les-Bains. The latter provides precious industrial and technical testimony in addition to the property already inscribed, and it provides the extended property with new regional and historical meaning.

## *Recommendations with respect to inscription*

ICOMOS recommends that the extension of the Royal Saltworks of Arc-et-Senans to include the Great Saltworks of Salins-les-Bains and become: "From the Great Saltworks of Salins-les-Bains to the Royal Saltworks of Arc-et-Senans, the production of open-pan salt", France, be approved on the basis of *criteria (i), (ii), and (iv)*.

## *Recommended Statement of Outstanding Universal Value*

The saltworks in Salins-les-Bains and Arc-et-Senans demonstrate outstanding universal value:

- In terms of the extent of the chronological timeframe during which the extraction of salt continued in Salins, certainly from the Middle Ages, and probably from prehistoric times, through to the 20th century. Spa activity has extended its use through to today.
- In terms of the specific nature of salt production in Salins-les-Bains and Arc-et-Senans, based on a technique of tapping sources of salt deep underground, the use of fire to evaporate the brine, and the 18th century innovation of the creation of a 21km pipeline to carry the brine between the two sites.
- In terms of the exceptional architectural quality of the Royal Saltworks of Arc-et-Senans and its participation in the movement of ideas in the Age of Enlightenment. It is testimony to a visionary architectural project of a 'model factory.' Developed and built by the architect and supervisor of saltworks in Franche-Comté and Lorraine, Claude-Nicolas Ledoux (1736–1806), Arc-et-Senans is the modern and Utopian extension of the Great Saltworks of Salins-les-Bains.

**Criterion (i):** The Royal Saltworks at Arc-et-Senans is the first architectural complex on this scale and of this standard designed as a place of work. This is the first instance of a factory being built with the same care and concern for architectural quality as a palace or an important religious building. It is one of the rare examples of visionary architecture. The Saltworks was the heart of an Ideal City which Claude-Nicolas Ledoux imagined and designed encircling the factory. The unfinished Utopian architecture of the Saltworks still carries the full impact of its futuristic message.

**Criterion (ii):** The Royal Saltworks of Arc-et-Senans bears witness to a fundamental cultural change in Europe at the end of the 18th century: the birth of industrial society. Besides being a perfect illustration of an entire philosophical current that swept Europe during the Age of Enlightenment, the Royal Saltworks heralded the industrial architecture that was to develop half a century later.

**Criterion (iv):** The saltworks of Salins-les-Bains and Arc-et-Senans provide an outstanding technical ensemble for the extraction and production of salt by pumping underground brine and the use of fire for its crystallisation, since at least the Middle Ages through to the 20th century, and its transport between the two sites by means of a brine pipeline in the 18th and 19th centuries.

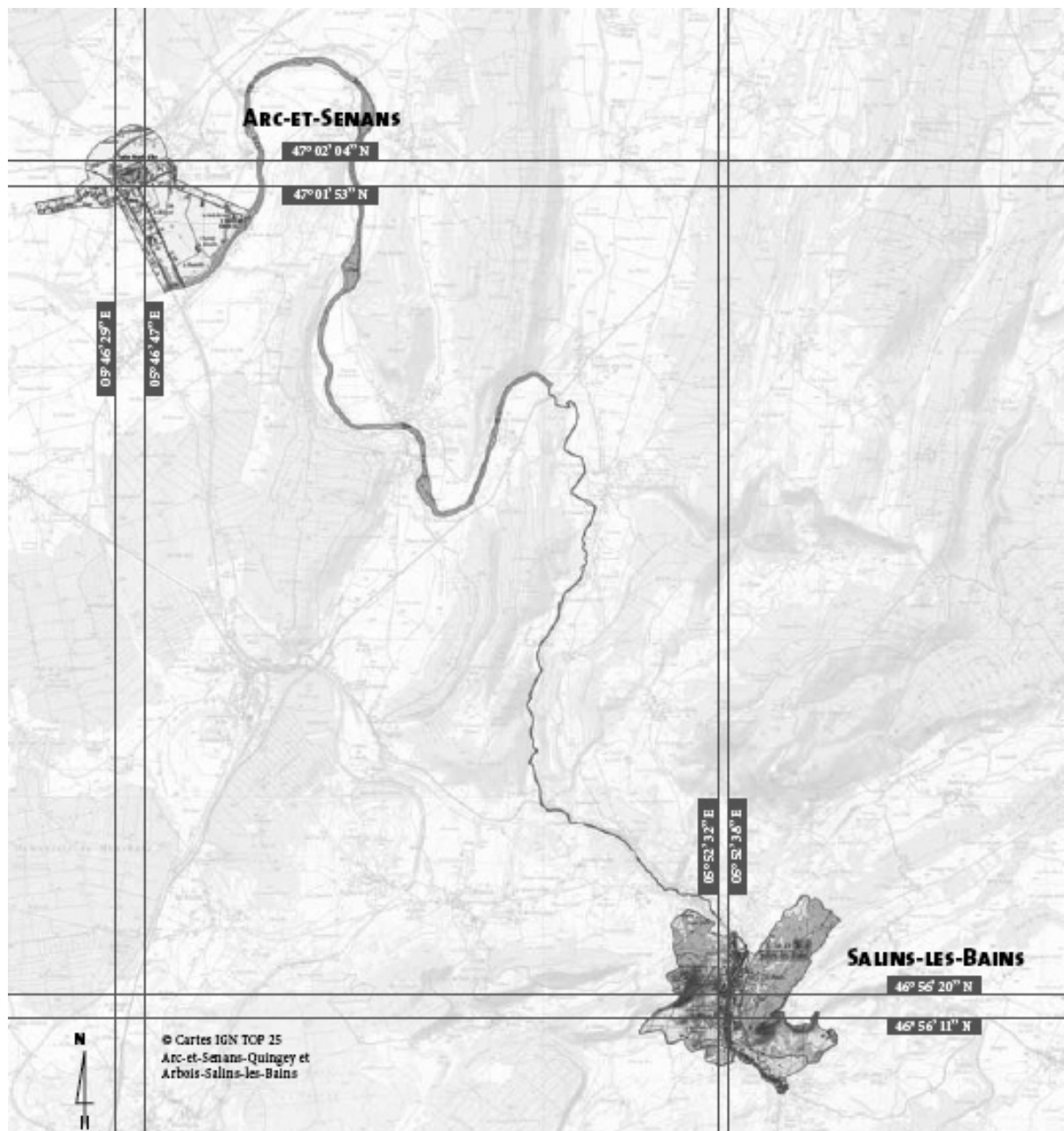


The integrity of Arc-et-Senans is good; that of Salins-les-Bains is more limited but acceptable. The authenticity of the two components of the property is satisfactory.

The management system of the property is adequate; it has recently been institutionalised with a joint management authority and the guarantee of a management plan being implemented.

ICOMOS recommends that the State Party give consideration to the following:

- Publishing the designation decisions by the French Historical Monuments as requested in Salins-les-Bains and for the remains of the brine pipeline.
- Disseminating the results of the studies and the options considered for urban traffic, parking areas, and redesignation actions for the urban centre of Salins-les-Bains, in order to foster the expression of the outstanding universal value of the property.
- Considering a coordinated procedure for monitoring the two components of the property.
- Considering to not envisage any new buildings or architectural changes in Salins-les-Bains as the architectural and landscape integrity has already been weakened.



Map showing the revised boundaries of Arc-et-Senans and Salins-les-Bains



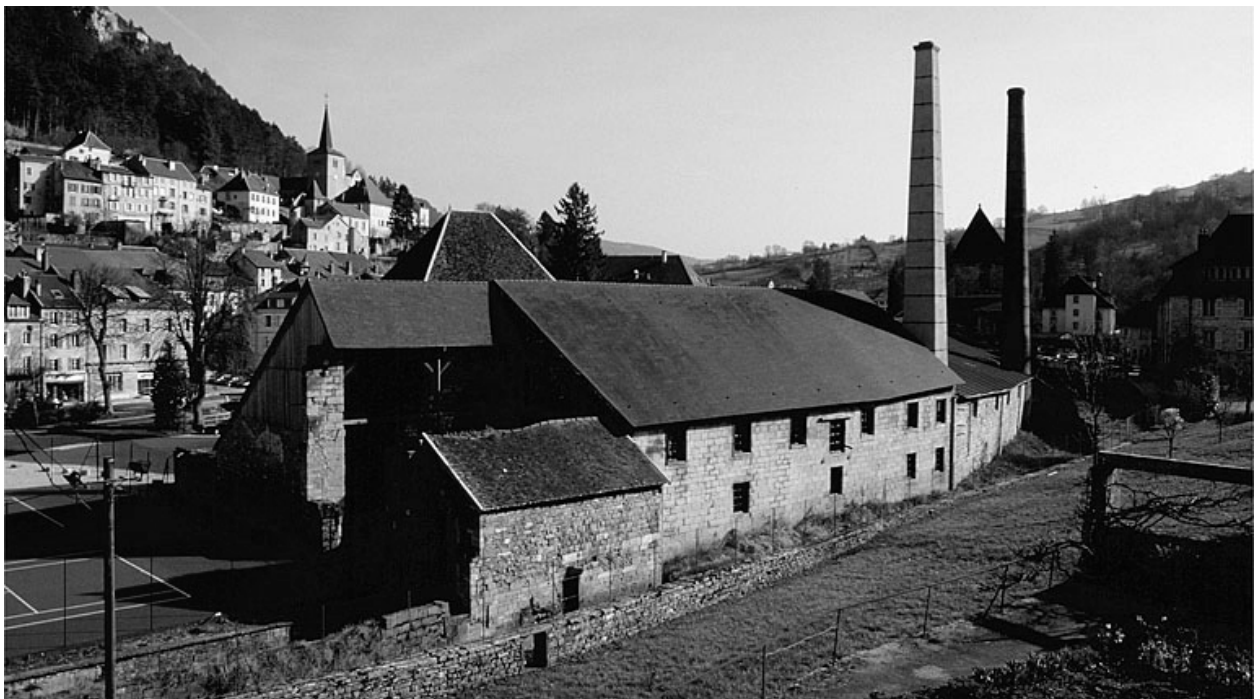
**General view of the great saltworks of Salins-les-Bains**



**Amount well - brine extraction well**



**Monumental underground tunnel**



**Salt store**