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## TOWARDS WASTE MANAGEMENT FACILITIES THAT BECOME A DURABLE AND ATTRACTIVE PART OF THE FABRIC OF LOCAL COMMUNITY RELEVANT DESIGN FEATURES

It is a special challenge to assure safe radioactive waste management over the long term. The greatest challenge, both technical and societal, may be to create a local operating facility to fulfil that mission over generations. Scientific knowledge and technical competency are needed, as are resources for implementing an agreed approach. Importantly, the people living in the host community must be willing to live with and help maintain the facility over the years. How then may a facility and its site be better integrated with the host community, and be made attractive for the long term? To meet the challenges, the local facility should actively improve a community's prospects for quality of life across the generations. To build a sustainable relationship between radioactive waste management and everyday life in the community, designers have to develop the facility and its site to suit peoples' needs, ambitions, and desires to the extent appropriate including, potentially, those of future generations.

When a facility fits in and adds value, it is more likely to be durably "adopted" by the members of the host community. The NEA Forum on Stakeholder confidence (FSC) observes that specific functional, cultural, and physical design features could be profitably employed to maximise the potential of the facility to fit in, adapt to and also contribute directly to the host community's preferred way of life.

### 地域社会に関連したデザイン特性の持続的で魅力的な構成要素となる廃棄物管理施設を目指して

放射性廃棄物の長期にわたる安全な管理は挑戦的な課題です。中でも最大の挑戦は、技術的にも社会的にも世代を超えてその役割を果たすローカルな施設を建設することにあります。科学的な知識と技術的な能力、それに合意されたアプローチを実行するための資源が必要とされます。重要なのは、地元社会の住民が長い期間にわたってその施設と共存し、それを維持していくことに積極的でなければならないということです。それでは施設やそのサイトが地元社会により広く受け入れられ、長期にわたって魅力を保ち続けるためにはどのようにすればよいのでしょうか。このためには当該施設が地域社会において世代を超えた生活の質の向上に積極的な役割を果たすことが重要です。放射性廃棄物の管理と地域社会における日々の生活の間に持続可能な関係を築くために、設計者は施設とそのサイトが地元住民の要求や希望、さらには将来世代の住民の要求にも沿うように努力しなければなりません。

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施設が地域に適合し付加価値を与えれば、地元住民による継続的な認知が得られやすくなります。FSC は機能面、文化面、物理的な設計の面において有利に働くような設計ができれば、施設が地域に社会になじみ、適合し、そこに住む人々が望むライフスタイルの実現に貢献できる可能性を最大限にできると見ています。

*Functional design features help provide flexibility in the uses to which an installation may be put.*

The facility must serve the primary purpose of assuring safe and secure long-term management of radioactive waste. Not every part of the facility, however, may need to maintain its initial function at all times, and it may be desirable at one point to turn it to other uses. It would be prudent to conceive and build some parts of the facility in such a way that new functions, including use by the community, may be accommodated. Careful multi-functional design adds opportunities by making it possible to put the installation to other uses both in the present and in the future, serving more directly the interests of residents and visitors.

### 他の目的に転用できる柔軟性を備えた機能上のデザイン特性

処分施設は放射性廃棄物を長期にわたり安全で確実に管理することを本来の目的とします。しかしながら施設の構成要素の全てが永久に所期の機能を果たす必要はなく、ある時期に他の目的のために転用されることが望ましい場合があり得るかも知れません。施設のある部分について地域社会による利用も含め、新たな機能に適するように設計することも賢明な選択と言えるかも知れません。多くの目的に適合するよう施設を慎重に設計することにより、現世代と将来世代が施設を他の目的に利用し、より直接的に地域住民や訪問者の希望に沿うことが可能となります。

*Cultural design features help the installation to reflect and strengthen “the best” of a given society or community.*

Cultural features help to transmit an honoured legacy, to communicate symbolic meaning, or to advance ideals. Technical partners working directly with stakeholders to design and integrate the facility can build in distinctiveness and aesthetic quality, convenience and meaningfulness, and foresee opportunities for residents and visitors to meet, learn, relax, and enjoy. When community members undertake such a process — with appropriate procedural guarantees and socio-economic provisions — they can also foster improvements

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in areas like educational level, image definition, or problem-solving capacity.

### 特定の地域社会がもつ特性を反映し強化する設備を支援する文化的なデザイン特性

施設の文化的な特徴は、栄誉ある遺産の伝達、象徴的な意味の伝承あるいは理念の追求に役立ちます。直接的な共同作業によって技術者とステークホルダーが設計と統合を進めることによって、その施設には独自性と美的な品質、利便性と存在意義が組み込まれ、住民や訪問者が集い、学び、寛ぎ、楽しむ機会を予測することができます。地域の住民が、適切な手続の保証と社会・経済的な見通しの下にこのようなプロセスを進めれば、教育水準、イメージの定義あるいは問題解決能力といった分野における能力の向上が期待できます。

*Physical design features help preserve the attachment of people to the place and a feeling of familiarity and safety.*

Physical design features can harmoniously integrate the installation into its geographic setting. The community gets the added value of amenity from an attractive, convenient and accessible site, open and welcoming. Communities point out that if a licensed installation can be freely visited, walked through, or enjoyed for other uses, it clearly must be safe. The goal of protection is accomplished better if the facility does not emphasise danger or disrupt the town landscape.

### 人々が地域との結びつきや親しみと安全に関する感じ方を失わないようにする物理的なデザイン特性

物理的なデザインにより施設とその地理的な条件をうまく調和させることができます。魅力的で利便性があり利用しやすい開放的で有効的なサイトの存在により、地域社会は快適性と言う付加価値を得ることになります。地域社会は許認可された施設を自由に訪問し、中を歩き、他の目的にも利用できるのであれば、そのような施設は必ず安全であると主張します。環境保護と言う目的を果たすためには、施設が危険性や景観への悪影響を強調し過ぎない方がよいと言えます。

DESCRIPTION OF DESIGN FEATURES, THEIR CHARACTERISTICS, AND THE ADDED VALUE THAT THEY MAY BRING TO A COMMUNITY			
	DESIGN FEATURE	CHARACTERISTICS	VALUE ADDED
FUNCTIONAL	<b>Multi functionality or polyvalence</b>	The installation assures its mission of safely managing radioactive waste and also supports other uses like recreation or education.	A wider range of people come into contact with the installation and bring it into their lives.
	<b>Adaptability</b>	Foreseeable functions can be accommodated at acceptable or no cost.	Supports the near-term multi-functionality of the installation.
	<b>Flexibility</b>	New and unforeseen functions can be accommodated at acceptable cost.	Supports longer-term multi-functionality, including complete transformation.
CULTURAL	<b>Distinctiveness</b>	The installation is attractive, recognisable and "like no other".	The installation may become an icon, a well-known, emblematic and admired feature of the place. People may draw pride from the presence of the installation; it can become a positive part of local identity.
	<b>Aesthetic quality</b>	The installation is nice to look at and to "experience".	Pleasure is drawn from the presence of the installation rather than avoiding it or rejecting it.
	<b>Understandability</b>	The installation and its functions are understandable.	The RWM project and installation are connected to daily life.
PHYSICAL	<b>Memorialisation</b>	The facility and site are marked so that people (now and later) know both what is there and something about its context.	Local identity and culture are preserved and showcased. Society's choices and achievements are recorded.
	<b>Integration</b>	The installation respects the "genus locus" (spirit of the place), fits into and complements the landscape.	No intrusion or disruption of people's living space and their attachment to the place.
	<b>Amenity</b>	The site includes features that enhance its attractiveness, convenience and usability.	People may actively go toward the site and draw satisfaction from using it.
	<b>Accessibility</b>	A large proportion of the installation surface is open; fences and barriers are reduced to the essential.	People get a feeling of security and familiarity rather than a sense of threat.

*Reflection on design and implementation is best started from the very first planning stages – even before final siting agreement is reached.*

It takes time to work out new ideas, new possibilities, and where the communities' own interests lie. The information and ideas gained during an early discussion will form a part of the basis on which a local community may agree to become a candidate and then actively engage in the final siting stages. Before a specific site is agreed, institutions generally cannot commit to the final form of a facility and site, or guarantee their ultimate fate. As well, the relationship between a community and a facility or site will depend in part upon external events (safety performance in the nuclear realm; statements by political actors, etc.). Still,

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feasibility studies and social science investigations early in the decision-making process can support community dialogue about what people want for their community. This is consistent with the UN Economic Commission for Europe (UNECE) Aarhus Convention, which has given many European citizens formal rights to participate in decision-making about their environment.

### 設計と実施への（民意の）反映は出来る限り計画の初期段階で（仮に立地の合意以前であっても）開始されるべき

地域社会が独自の関心を持っている場合、新たなアイデアや可能性を実現させるのには時間が必要です。議論の初期段階で得られる情報やアイデアは地域社会が候補地となることに賛成したり、立地段階に進むことに合意したりする基盤の一部を形成することになります。一般的に事業を実施する組織は、立地以前に施設やサイトの形態について確約したり、それらの最終的な運命を保証したりすることはできません。その上、地域社会と施設やサイトとの関係は部分的には（原子力分野における安全の実績、政治的な発言などの）外部の事象にも左右されます。それでも、意思決定プロセスの早い段階における可能性調査や社会科学的な調査によって、地域が求めるものに関する対話を支援することができると考えられます。また、このことは、国連欧州経済委員会（UNECE）の Aarhus 会議が、欧州の住民に彼らの生活環境に関わる意思決定に参加する権利を与えたこととも整合しています。

#### The overall FSC message is

**”Do not hide these facilities. Do not keep them apart, but make them A PART of the community”**

#### FSC の結論

**「処分施設を隠してはいけない。地域社会から切り離すことなくその一部として見よ」**

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